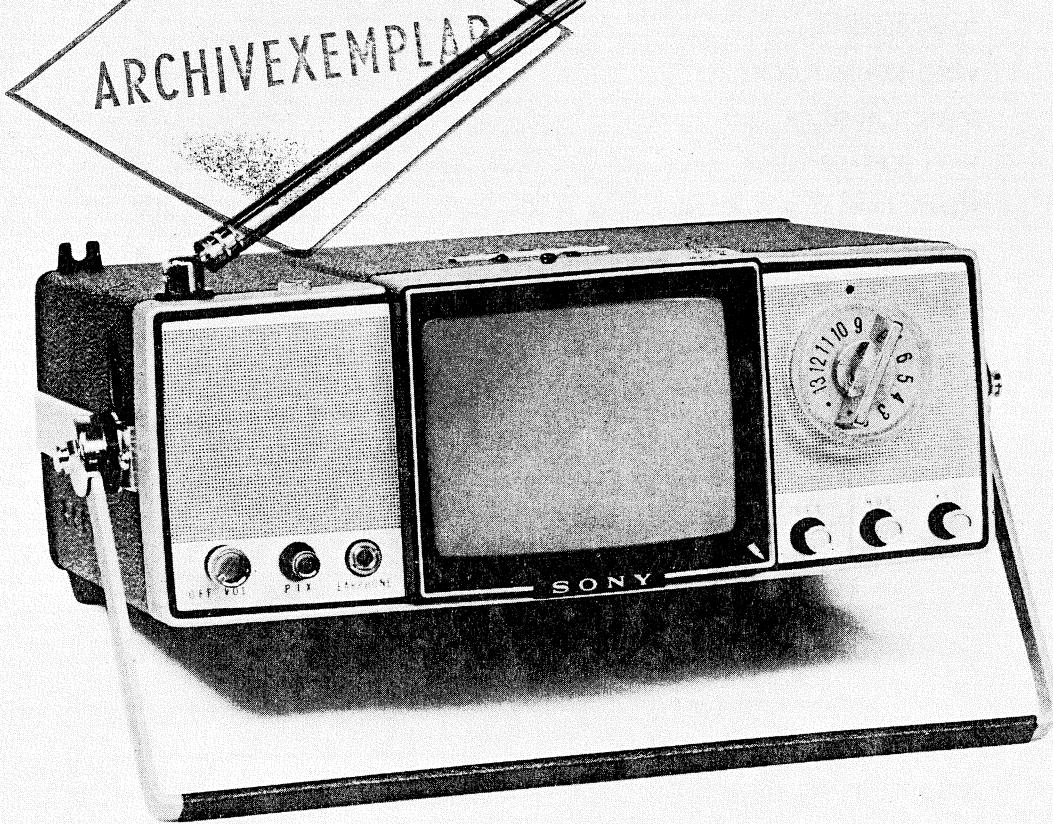


TV4-203W



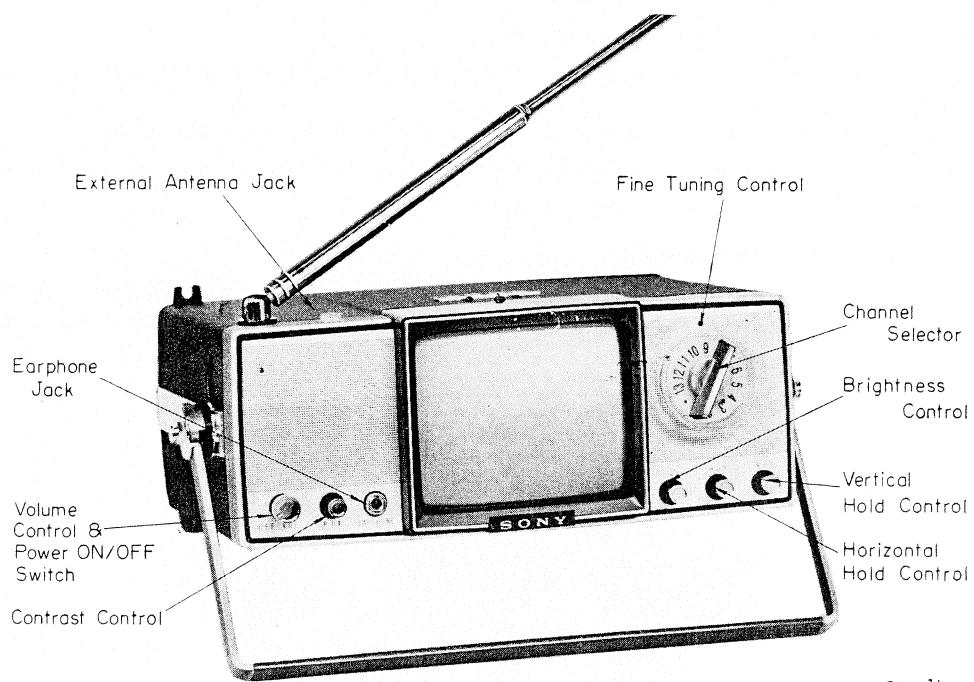
Specifications

System :	American TV standards
Channel coverage :	American VHF channels 2~13 American UHF channels 14~83 by using SONY UHF Converter
Picture tube :	4", 50-degree deflection, aluminized screen
Transistors :	31 (including Mesa and Epitaxial types)
Diodes :	17 (including Zener diode)
Silicon rectifier :	1 set
Resolution :	Vertical 350 lines, Horizontal 250 lines
Maximum sensitivity :	5μV/5 Vpp (in/out)
Automatic controls :	Pulse-operated AGC, Diode AFC Automatic Synchro-noise Suppressor
Speaker :	2" (5 cm), PM dynamic, 40Ω
Audio output :	100 mW (undistorted)
Power requirements :	DC 12 V, 3.8 W AC 117 V, 50/60 cps, 6.2 W
Dimensions :	3-1/8" (H) × 8-1/4" (W) × 6-1/2" (D) (80×210×164 mm)
Weight :	5 lbs. 11ozs. (2.6 Kg) with battery
Glare proofing :	Smoked Filter, 70% Transparency

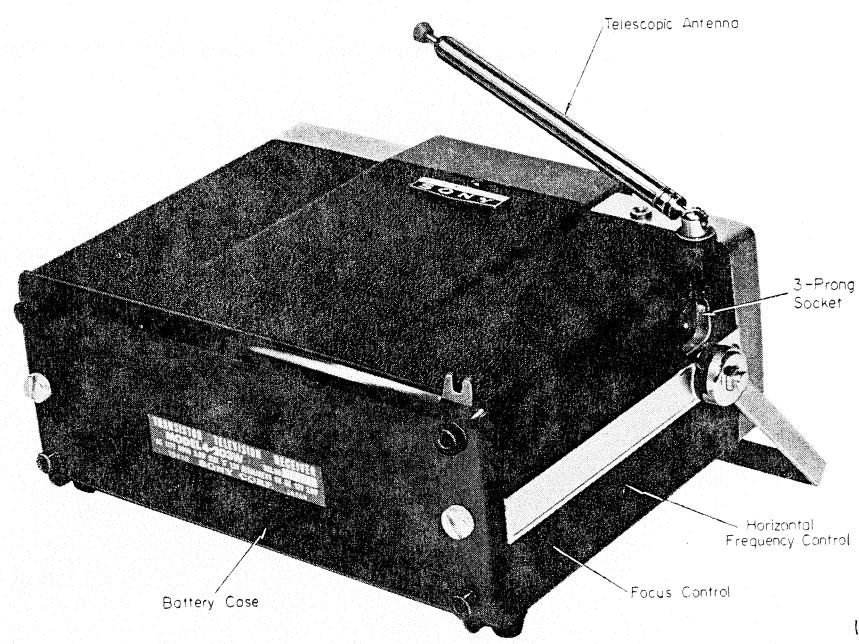
SONY®
SERVICING GUIDE

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(Fig. 1)



(Fig. 2)

The SONY Transistor TV4-203W

General

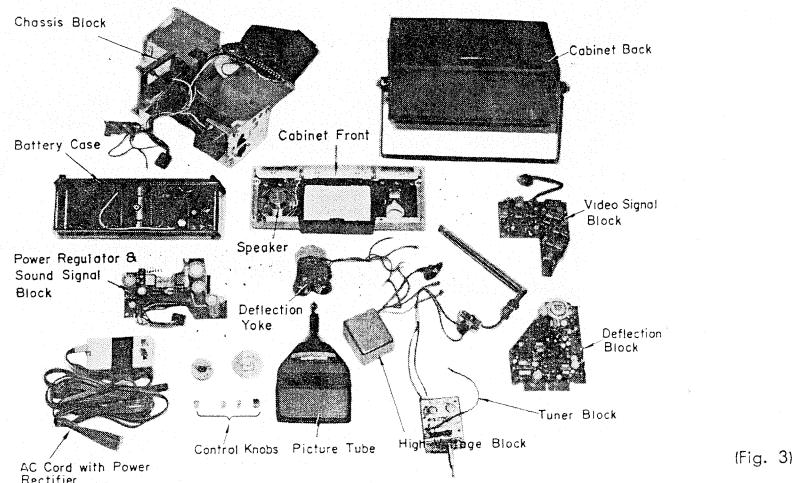
The SONY Transistor TV 4-203W is a 4 inch picture size which can receive American VHF Channel (2 through 13).

The design was made to meet the following requirements.

- 1) The Picture and Sound come on immediately when the set is turned on because of SONY's newly designed Picture Tube.
- 2) High performance tuner and newly developed Automatic Control Circuit assure clear picture and sound.
- 3) Can be operated with self-contained batteries, Rechargeable SONY Battery, car or boat battery or regular house current. The circuit layout is shown in Fig. 4.

Electronic Informations of Each Section

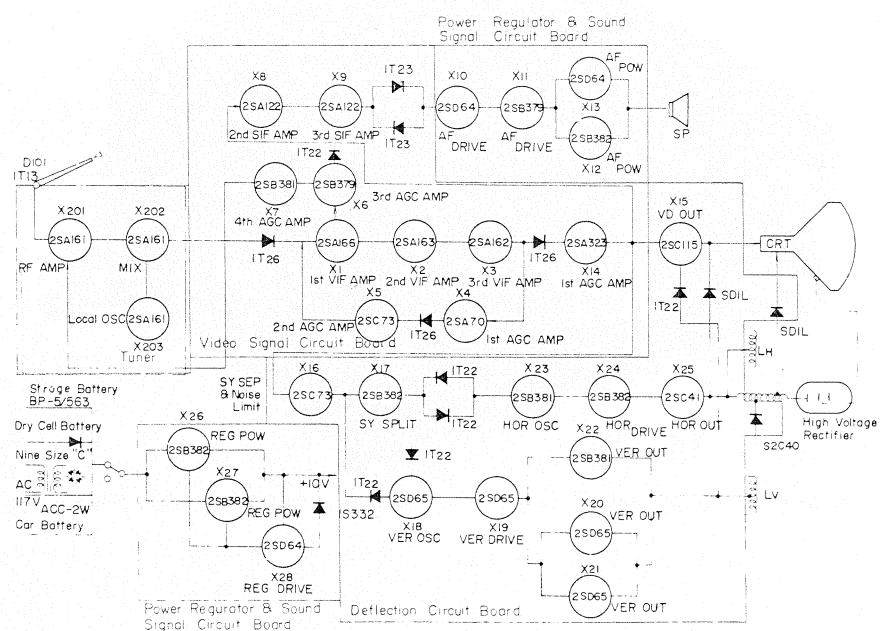
The Receiver is divided into the Tuner Block, Video Signal Block, Deflection Block, Power Regulator & Sound Signal Block, High Voltage Block and CRT Circuit Sections. Each section can be replaced with another spare section so as to facilitate the repair work.



(Fig. 3)

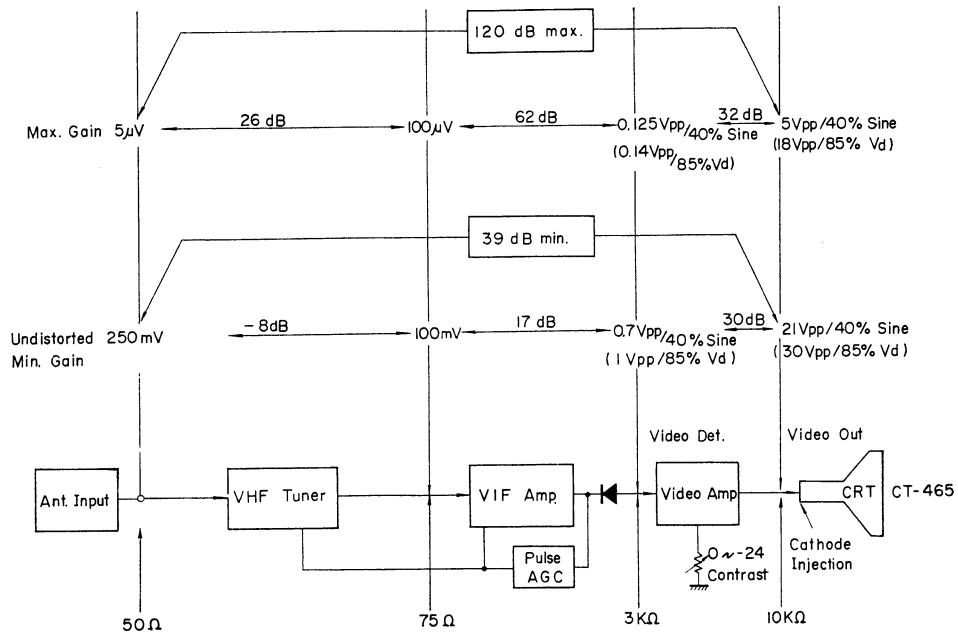
It consists of 31 transistors (including Mesa and Epitaxial Type), 17 diodes and 5 high voltage rectifiers.

Block Diagram



(Fig. 4)

Level Diagram for Video



Tuner Block

The Tuner uses three PNP Mesa Type Germanium Transistors (2SA161), one is used in the RF Amplifier, one is the Mixer and one in the Local Oscillator. A Disc Type Turret is used for mounting all the coils and contacts for Channel Selection. Special Contact Points have been designed for easy and positive channel selection. The transistors and other circuit parts are mounted directly above the Channel Switch and are enclosed within the Tuner Shield. RF coils for each channel are connected in series but the Oscillator Coil for each channel can be adjusted independently. The AGC characteristics of the set is excellent as the AGC action is extended to the IF Amplifier and to the RF Amplifier Stage in the VHF Tuner. The Set with the built-in Telescopic Antenna extended to its full length can be operated at a field strength of as much as 100 mV/m without overloading the circuit.

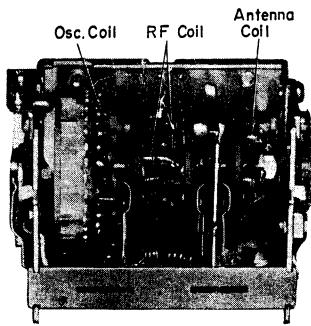
a. RF Amplifier

The Antenna Impedance is 75Ω . For correct impedance matching between the Antenna and the Transistor Input, taps are used on both sides of the tuned circuit. A tap on the Inductance is made on the Antenna side and a tap is made on the Capacitance on the Transistor side for impedance matching. The RF Transistor Output is double tuned with mutual coupling (double peaks). This in combination with the single peak of the input circuit gives essentially flat Bandwidth of 6 Mc for this stage.

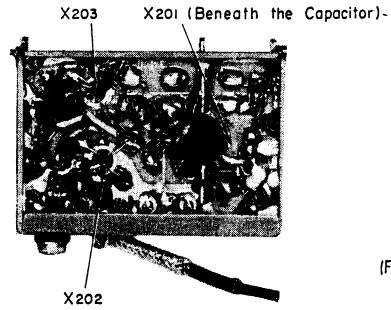
A neutralizing capacitor is used in the base circuit as shown in Fig. 7-2 to prevent oscillation due to stray capacitance.

A gain of 14 dB is possible at 200 Mc with a circuit of this type but too much gain tends to make the Set unstable and hence the gain has been kept to be about 10 dB in our circuit. The gain on the lower channels tends to be higher than that on the higher channels, and so the damping resistors are inserted in the circuit of the lower channels to make the gain difference between the higher and lower channels within ± 1.5 dB.

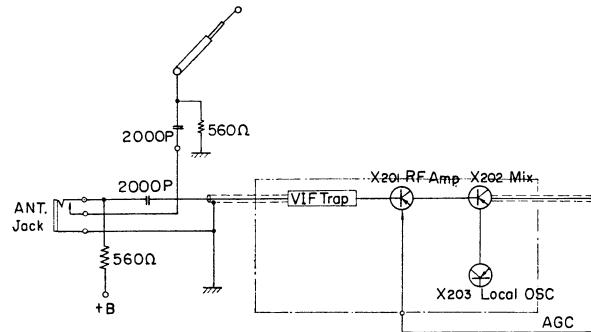
VHF Tuner



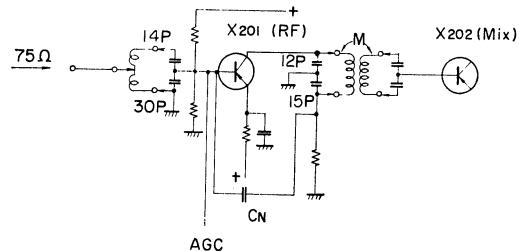
(Fig. 6-1)



(Fig. 6-2)



(Fig. 7-1)



(Fig. 7-2)

b. Mixer Circuit

The Mixer Transistor 2SA161 is emitter-grounded. The Impedance Matching is made by a capacitance divider in the same way as in the RF Amplifier. The Local Oscillator Signal is injected into the base of the transistor. The power dissipation in the mixer transistor is very much less (about 1/30—1/50) than the plate loss of the tube mixer. The voltage of the Local Oscillator Signal injected is about 0.2 Vrms, which is also much smaller (1/10—1/20) than that in tube mixer. Furthermore, the Gm of the Transistor Mixer is high and hence the trouble with the mixer noise encountered in tube circuits are of no consequence here in our circuit. This circuit is also neutralized to prevent undesired oscillation.

c. Local Oscillator

The Local Oscillator uses a Colpitts Circuit. This circuit is well suited for this use as it does not require a tap on the oscillator coil. The transistor (2SA161) is base-grounded. The drift is kept within 200 Kc. As mentioned before, each oscillator coil is independent of the others so that the oscillation frequency can be adjusted from outside the Tuner by turning the screw type cores. The Fine Tuning Capacitors are separately shielded to prevent radiation from the set. The adjustable range of the Local Oscillation is approx. 1.8 Mc for Channel 2 and approx. 5.5 Mc for Channel 13.

Video Signal Block

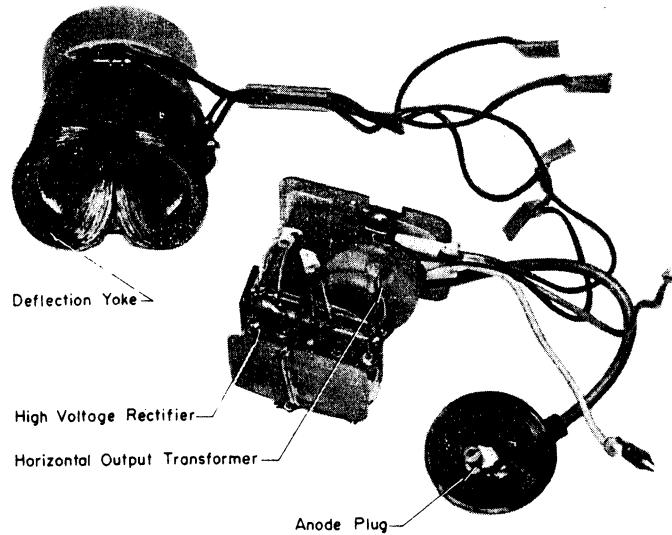
The Video Signal Block includes Video IF, AGC Section and Sound IF Amplifier. The Video IF is 26.75 Mc while the Sound IF is 22.25 Mc. The Band Width of this section is 3 Mc which is sufficient for this type of miniature Receiver. All Transistors used in VIF stage are PNP Mesa type Germanium Transistor (X1, 2, 3...2SA161~6). The Video Signal which is amplified and detected by this section is fed to Video Output Stage located on Deflection Block through Video Drive Transistor (X14, PNP Germanium). Sound Signals which are picked up at collector of X14 because of Intercarrier System are amplified by two Sound IF Stages and Detected Audio Signals are fed to Audio Amplifier which is placed on Power Regulator & Sound Signal Block.

Deflection Block

The Deflection Block consists of the Video Output, Synchronizing Pulse Separator and Vertical and Horizontal Deflection Circuits. A NPN Mesa Type Silicon Transistor (X15, 2SC115) is used in the Video Output Circuit in order to get 30 Vpp of output which is required for sufficient contrast of Picture Tube. The frequency response is almost flat to 3 Mc by the use of shunted series peaking (L501, R510). The Synchronizing Pulse is separated at X16 (NPN, 2SC73) and Vertical Pulse is taken out of X16 Collector. This stage is operated as a Noise Limiter for the Synchronizing Pulse to keep stable condition in a car or any other place. The Vertical Saw-tooth wave is generated by blocking oscillation in the circuit of X18 (NPN, 2SD65). It is then amplified by X19, X20, X21 (NPN, 2SD65) and X22 (PNP, 2SB381) and applied to the Vertical Deflection Yoke of the Picture Tube. Vertical output is used B class push-pull circuit which consists of X21 (NPN) and X22 (PNP) Transistors. As a result, receiver does not need Vertical Choke Coil and power consumption of this stage is very low. The Horizontal Deflection Pulse is generated by Horizontal Blocking Transformer (HBT) and X23 (PNP 2SB381) then amplified by X24 (PNP, 2SB382) which drives output stage. The Horizontal Output Transistor (X25, NPN Silicon Mesa Type 2SC411) is connected to the Horizontal Output Transformer and supplies the Saw-tooth wave to the Horizontal Deflection Yoke.

High Voltage Block

High Voltage Block consists of the Horizontal Output Transformer and five High Voltage Rectifiers (1SK2). All are covered by one metallic case. Fig. 8 shows the inside of High Voltage Block and Deflection Yoke. The Flyback Pulse is stepped up, and rectified by the High Voltage Rectifiers to the High Voltage of about 8 KV, then applied to the Anode of the Picture Tube.



(Fig. 8)

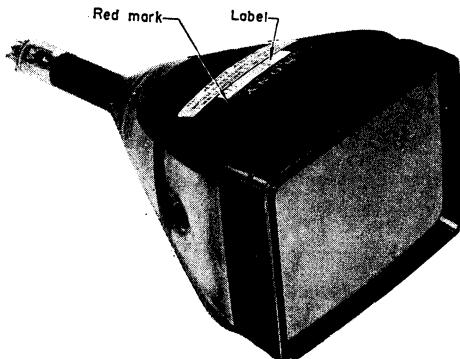
Power Regulator & Sound Signal Block

Power Regulator & Sound Signal Block includes Power Regulator and Audio Amplifier. Power Regulator & Sound Signal Circuit which has three transistors (X26, X27, PNP 2SB382 and X28, NPN 2SD64) keeps a constant voltage against the alternating Power Voltage and Current (See Circuit Board Alignment).

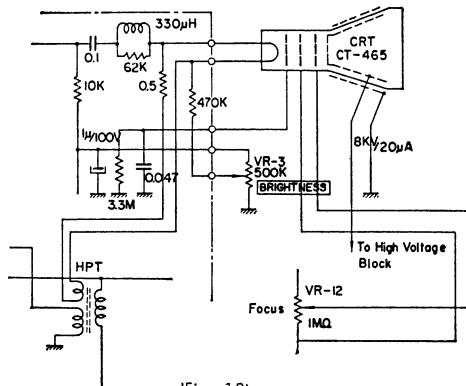
Detected Audio Signals through Volume Control (VR-1) are amplified by Audio Amplifier and supplied to Speaker. Direct Coupled Single Ended Push-Pull Circuit which requires neither Input nor Output Transformer is used at this audio power amplifier stage (X12, PNP 2SB382 and X13, NPN 2SD64). As a result, the size of audio amplifier is very small and audio power output is approx. 100 mW (non distorted) and maximum output is over 150 mW.

Picture Tube

The resolution of the picture greatly depends upon the construction of the Picture Tube, and the power consumption of the receiver is much influenced by the construction of the electron gun in the Tube. Therefore, the key point of success in making this type of Receiver is the improvement of picture tube. The CT-465 Picture Tube was specially developed for the SONY Transistor TV 4-203W and has the following features.



(Fig. 9)



(Fig. 10)

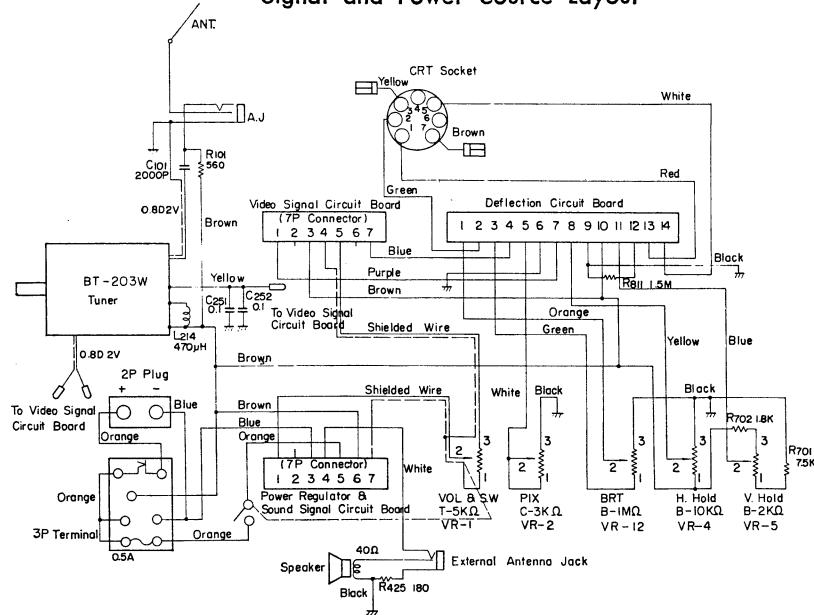
- a) Cathode Direct Heating System by High Frequency Power is used to get the picture immediately when the set is turned on and High Frequency Power is supplied by Horizontal Pulse Transformer in Deflection Block. (See Fig. 10)
- b) Deflection Power

50 degree deflection and 12.75 mm neck diameter result in lower deflection power although the anode voltage is as high as 8 KV. This gives a brightness of 500 lux

Specifications of Picture Tube CT-465

Type :	Rectangular Frame	Focusing :	Electrostatic Automatic
Neck Diameter :	12.75 ± 0.35 mm	Full Length :	156 mm
Deflection :	Electromagnetic	Anode Voltage :	8 KV
Deflection Angle :	50 degree	1st Grid cut-off Voltage :	$-20 \sim -30$ V
Heater Voltage :	0.58 V, 300 mA		

Signal and Power Source Layout

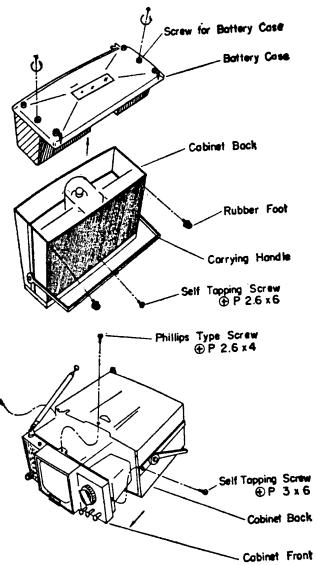


Method of Disassembling the Set

To Remove Cabinet Back (See Fig. 12)

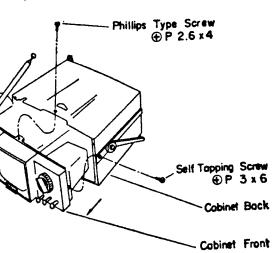
1. Untie two screws for battery case and remove battery case.
2. Remove two rubber foot screws and self tapping screw ($\oplus P 2.6 \times 6$) located on the rear of cabinet.
3. Remove one philips head screws on the top of the cabinet.
4. Remove two self tapping screws located on both side of the cabinet.
5. Grasp cabinet front and cabinet back and remove cabinet back by pulling.

Note: Carrying handle must be held when cabinet is removed.



To Remove Power Regulator & Sound Signal Circuit Board (See Fig. 13)

1. Remove one philips head screw ($\oplus P 3 \times 5$) at tuner side.
2. Remove two plastic clear screws ($\oplus P 3 \times 5$) located on the back of the chassis.
3. Pull PC Board to make free from receiver.
4. Disconnect 7P Plug by pulling and lift PC Board off receiver.



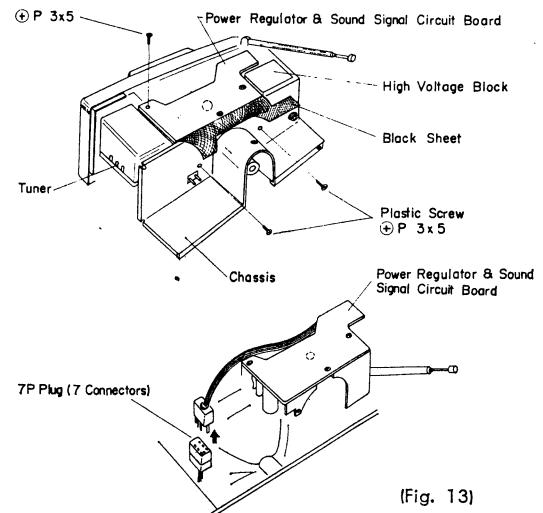
To Remove Video Signal Circuit Board (See Fig. 14)

1. Place receiver upside down.
2. Remove two philips head screws 2 and 3 in the Fig. 14.
3. Lift the Video Signal Circuit Board and pull straight up.
4. Disconnect yellow wire and black co-axial cable (VIF in) by pulling.
5. Disconnect 7-P plug.

(Fig. 12)

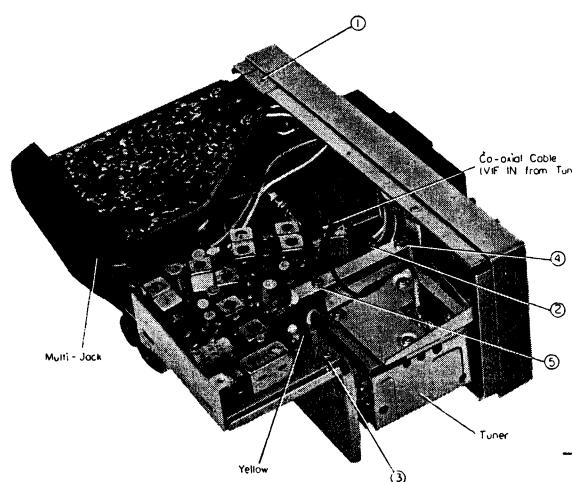
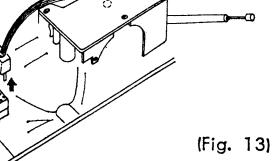
To Remove Deflection Circuit Board (See Fig. 14)

1. Remove one screw (① in Fig. 14) located on cabinet front.
2. Lift the Deflection Circuit Board and pull it off from Multi-jack.
3. Disconnect yellow and brown wires from Picture Tube Socket, red, blue, orange and white leads from High Voltage Block, and green and gray from Deflection Yoke. Above wires are removed by pulling at the terminal tip on Deflection Circuit Board.

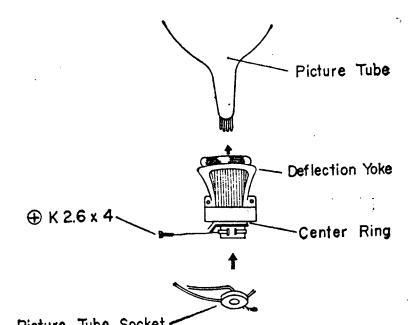


To Remove Deflection Yoke (See Fig. 15)

1. Remove cabinet back and video signal circuit board.
2. Disconnect picture tube socket.
3. Loosen the yoke clamp screw.
4. Remove deflection yoke carefully as the picture tube neck is very weak.



(Fig. 14)



(Fig. 15)

To Remove Chassis Block (See Fig. 16)

1. Remove all the control knobs located on front panel by pulling.
2. Remove cabinet, video signal and deflection circuit boards.
3. Remove CRT anode plug from picture tube.
4. Remove deflection yoke.
5. Remove four screws ($\oplus K 2.6 \times 4$) located at the top bottom and left side of the cabinet.
6. Loosen lead wires between cabinet front and picture tube by pulling.
7. Remove external antenna jack from cabinet front by unscrewing jack nut.
8. Unsolder white earphone jack lead at jack terminal.

Caution: When removing the channel selector knob, pull the fine tuning knob together to avoid any damage against the channel selector knob.

To Remove Telescopic Antenna

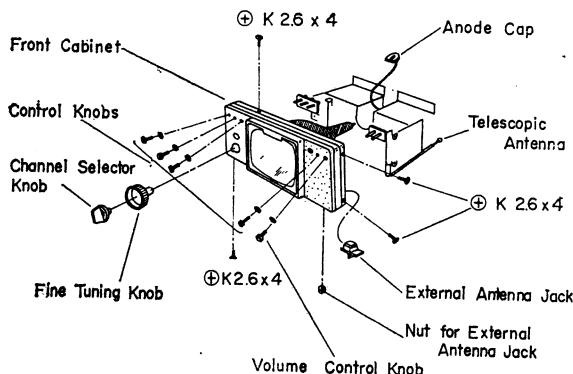
1. Remove chassis and cabinet front. (See chassis and front cabinet disassembly)
2. Remove one philips head screw ($\oplus P 3 \times 5$) and spring washer.
3. Un solder co-axial cable and resistor. (carbon fixed $27K\Omega$)

To Remove High Voltage Block (See Fig. 17)

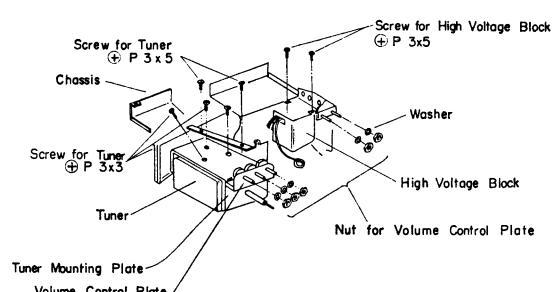
1. Remove cabinet back.
2. Remove power regulator sound signal circuit board and deflection circuit board. (See power regulator and deflection circuit boards disassembly)
3. Unsolder red and blue leads at the terminal on deflection circuit board.
4. Disconnect orange and white leads by pulling them up.
5. Remove anode plug from picture tube.
6. Remove two screws ($\oplus P 3 \times 5$) located on the rear of high voltage block.

To Remove Tuner (See Fig. 17)

1. Remove chassis and cabinet front. (See chassis and front cabinet disassembly)
2. Disconnect shielded wire at the external antenna jack by unsoldering.
3. Remove two philips head screws 4 and 5 in Fig. 14 and lift the tuner block up temporarily, then remove it by pulling to the right of the receiver.



(Fig. 16)



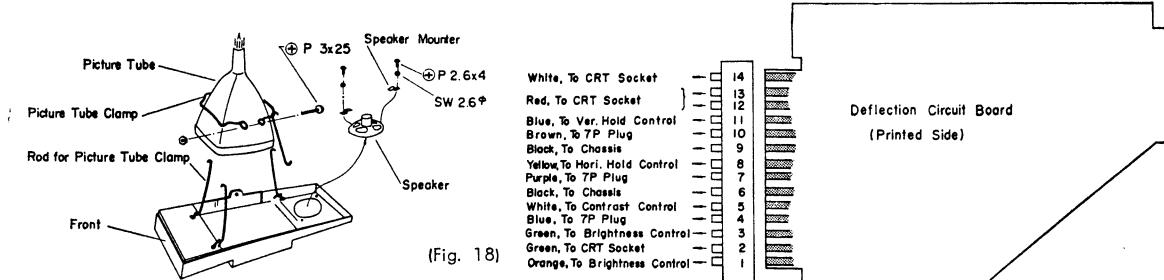
(Fig. 17)

To Remove Picture Tube (See Fig. 18)

1. Remove cabinet front from receiver
2. Place cabinet front with picture tube on its safety cover (face down) and protect the safety cover with a cloth.
3. Remove long screw (+P 3×25) and nut at the picture tube clamp.
4. Remove picture tube clamp and clamp rod, and lift the tube up carefully.

Caution: If the picture tube has red mark on tube label (see Fig. 9), connect red wire from 1st socket to the Multi-jack terminal No. 13, while in case of no red mark on tube label, connect red wire to the Multi-jack terminal No. 12.

The connection of Multi-jack terminal is as follows.



Adjustment and Alignment

Video IF and Trap Alignment

Test Equipments

Sweep Generator

Marker Generator

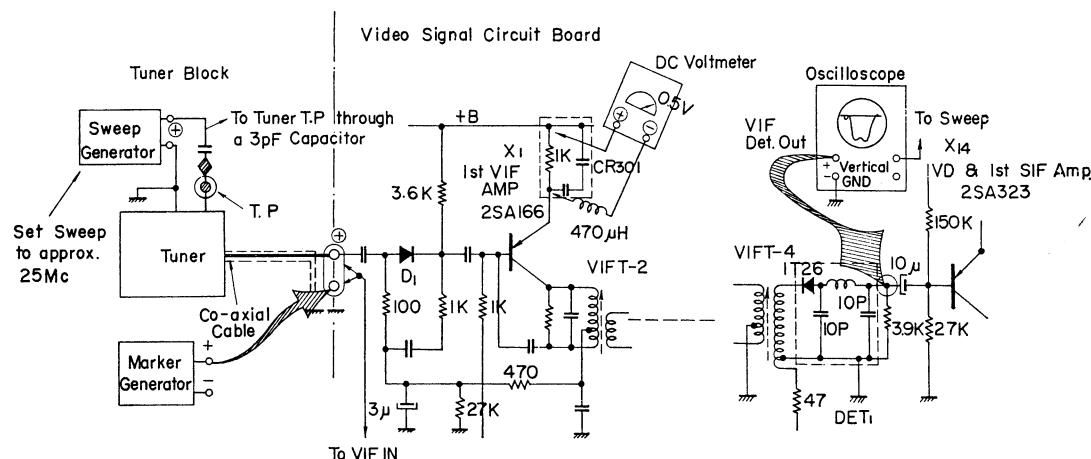
Oscilloscope

DC Power Supply

VTVM if available

1. Pre-Alignment Steps

1. Connect Sweep Generator to Tuner TP through 3pF Capacitor.
2. Set Sweep to approx. 25 Mc.
3. Couple Marker Generator to Video IF input.
4. Apply DC Voltmeter across 1000Ω in CR301 and get 0.5 V in DC Voltmeter by adjusting the Attenuator of Sweep Generator.
5. Connect the Oscilloscope to the Video Detector Output.



2. Trap Alignment

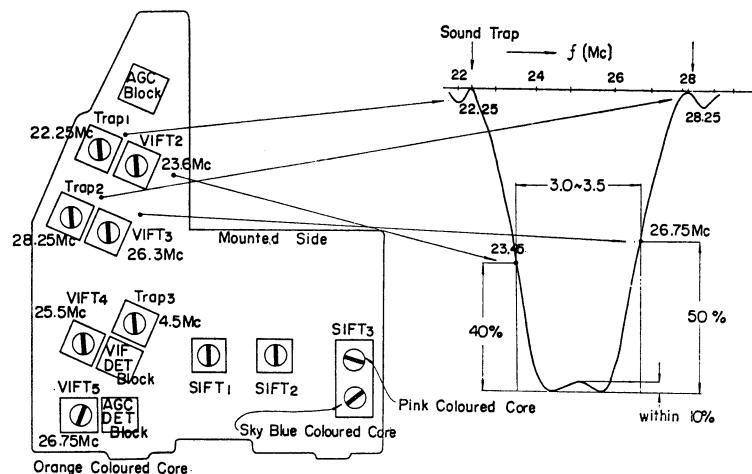
1. Set Marker Generator to 22.25 Mc.
2. Tune Trap-1 (22.25 Mc) and get minimum dip
3. Set Marker Generator to 28.25 Mc.
4. Tune Trap-2 (28.25 Mc) and get minimum dip.

3. Video IF Alignment

1. Set Marker Generator to 23.45 Mc for VIFT2 adjustment, then 26.75 Mc for VIFT3 adjustment
2. Get Standard Response Curve as shown in Fig. 21 by adjusting VIFT2 and VIFT3.

VIF Alignment chart is as follows.

Adjusting Point	Center Frequency	Band Width	Damping Resistors
VIFT 1 (built in Tuner)	24.3 Mc	3 Mc	
2	23.6 Mc	1 Mc	R305
3	26.3 Mc	1 Mc	R313
4	25.5 Mc	3 Mc	
5	26.75 Mc	3.8 Mc	



(Fig. 21)

Distribution of VIFT, SIFT & Detector Block

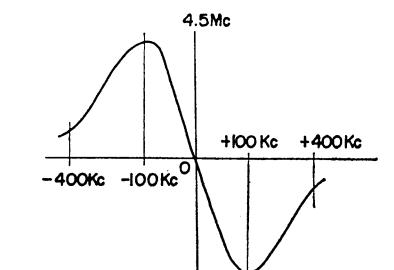
Standard Response Curve

4. Sound IF Alignment

Test Equipments

- Sweep Generator
- Marker Generator
- Oscilloscope
- Power Supply
- VTVM

Connections (Refer to Fig. 23)

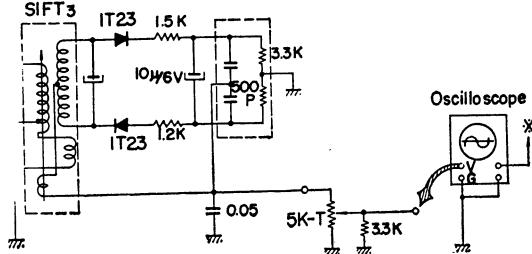
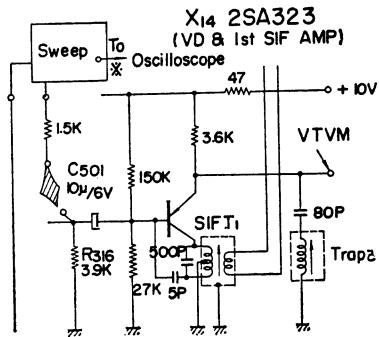


Standard Response for Sound Detector

(Fig. 22)

Step 1. Set SSG to 4.5 Mc (AM 1,000c/s, 30% Modulation) and get the minimum voltage of meter by adjusting Trap-3.

Step 2. Adjust SIFT1, 2 and 3 so as to get the S shaped wave shown in Fig. 22.



(Fig. 23)

Deflection Block Alignment

Following check and alignment are necessary when Deflection Circuit Board is replaced.

(1) CRT Heater Voltage Alignment

Test Equipment

Thermoelectric Voltmeter

Voltage across the heater terminal of picture tube must be less than 0.60 V (Connection, see Fig. 24).

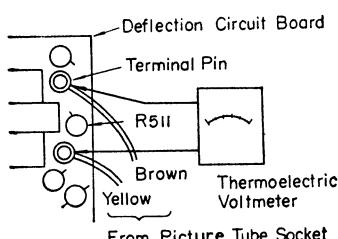
If above voltage is more than 0.60 V, adjust resistor R511 so as to get less than 0.60 V.

(2) Vertical Height, Vertical Linearity, and Vertical Bias Controls.

Test Equipment

Voltmeter (20 $\text{K}\Omega/\text{V}$)

1. Set Deflection Circuit Board to Receiver and get normal Test pattern by adjusting VR-8 (Vertical Linearity) and VR-7 (Vertical Width).



(Fig. 24)

Caution

Voltage between the collectors of X20 & X21, and +10 V line should be $3.8\text{ V} \pm 0.2\text{ V}$. Voltage across emitter resistor (R711) of X22 (2SB381) should be $0.17\text{ V} \sim 0.18\text{ V}$. If not, adjust Vertical Bias Control (VR-9, 10).

Make sure no Retrace Line or white Vertical Bars on Raster present.

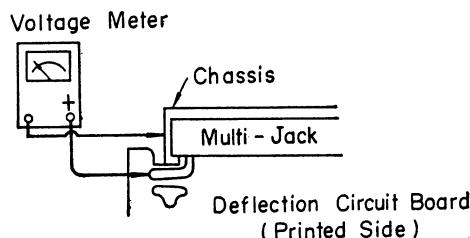
Horizontal width Adjustment

Set the Brightness to maximum by adjusting brightness control knob located on front panel and make sure horizontal width is normal. If not, add small value of capacitor (approx. $0.01 \sim 0.001 \mu\text{F}$) to C804 and get normal width.

Caution Recheck CRT heater voltage after the above adjustment.

Focus Adjustment

Connect DC Voltmeter as indicated below (Fig. 25) and get $2.4 \text{ V} \sim 2.6 \text{ V}$ in meter by adjusting Brightness Control Knob. Then adjust Semi-fixed Resistor (VR-12) so as to get the sharpest and the clearest picture.



(Fig. 25)

Power Regulator Board Alignment

Test Equipments

DC Power Supply

DC Voltmeter

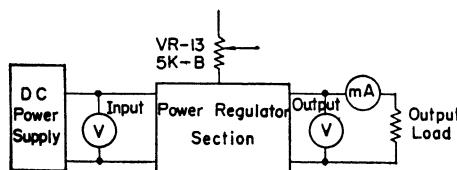
DC Ammeter

Connection (refer to Fig. 26)

Apply 12 V DC in input and adjust VR-13 ($5 \text{ K}\Omega$) so as to get $10 \text{ V} \pm 0.2 \text{ V}$ in output.

Adjusted Power Regulator Board should satisfy the following features

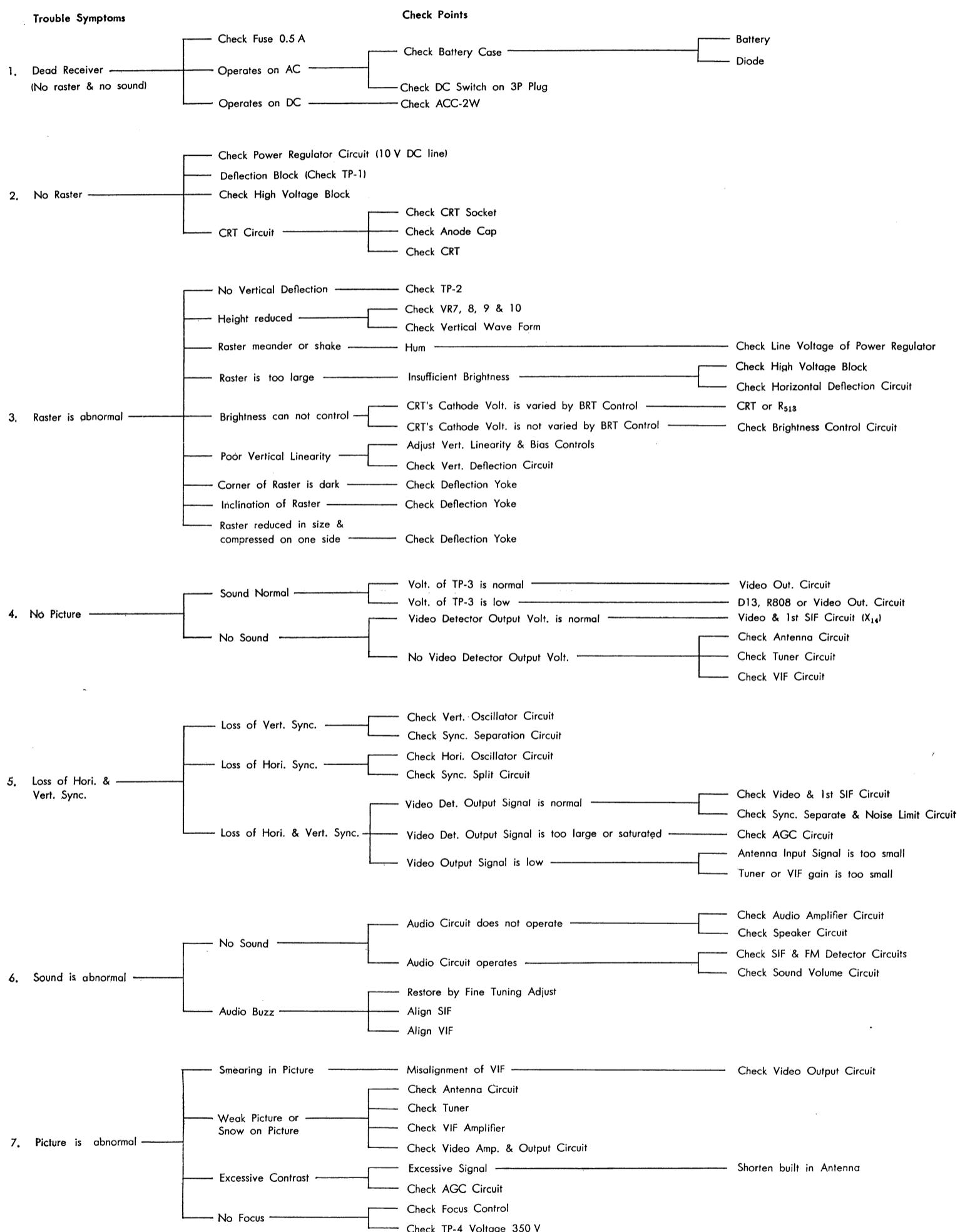
- (1) When the input voltage is set 12 (Twelve Volts DC) and output current is changed from zero to 100 mA by adjusting output load, output voltage of this board should be held between 10 V and 10.6 V
- (2) Set the Input at 12 V and the Output Current at 370 mA, then change the Input from 10 V to 14 V DC under the condition of constant load. The Output Voltage should be maintained between 9.7 V to 10.3 V.



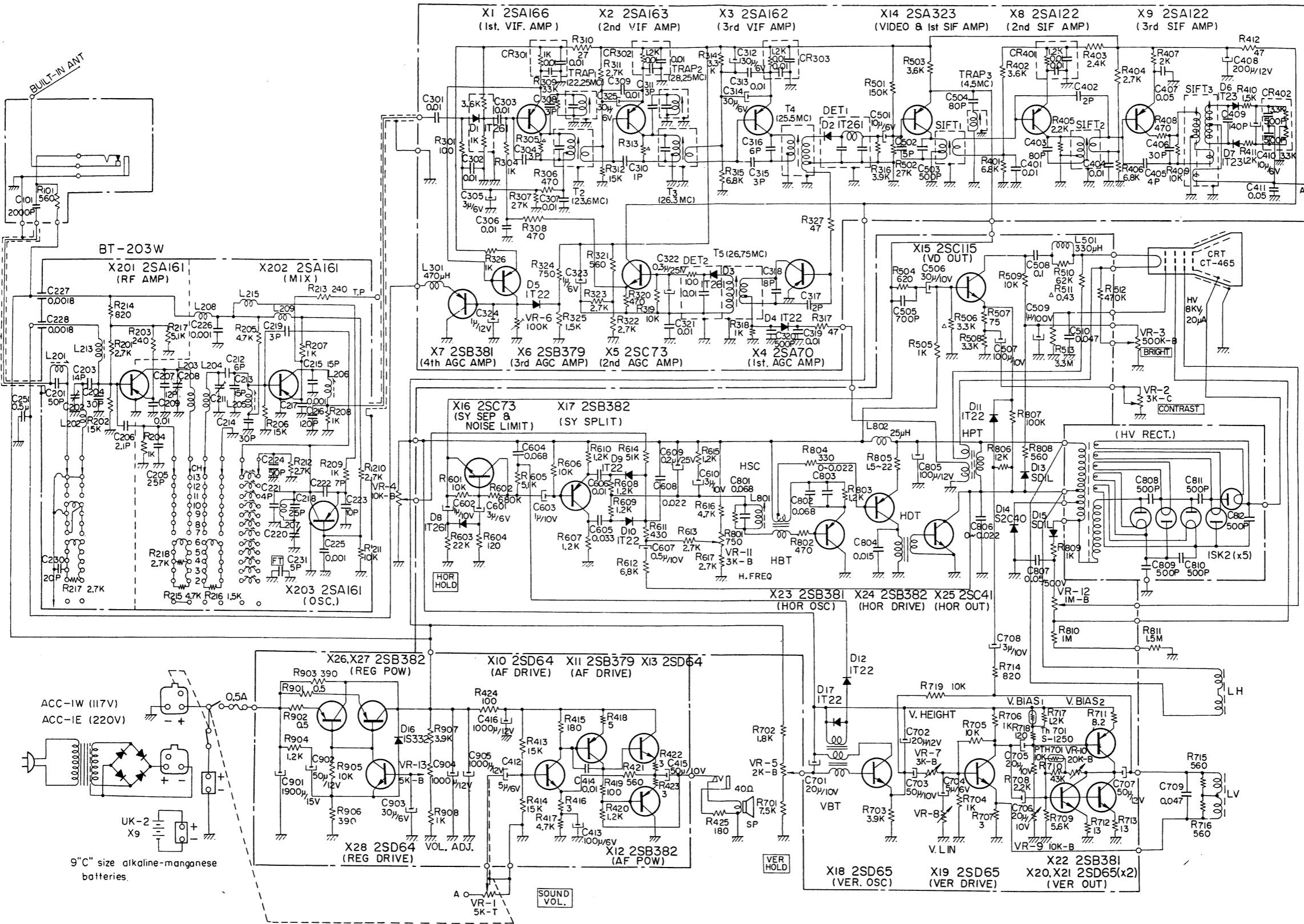
(Fig. 26)

Trouble Shooting

As described before, the receiver is divided into the Tuner Block, Deflection Block, Power Regulator & Sound Signal Block, High Voltage Block & CRT. Each section can be replaced with another spare section so as to facilitate the repair work. The following table shows the various trouble symptoms, the points to be checked and the necessary steps of repairing.



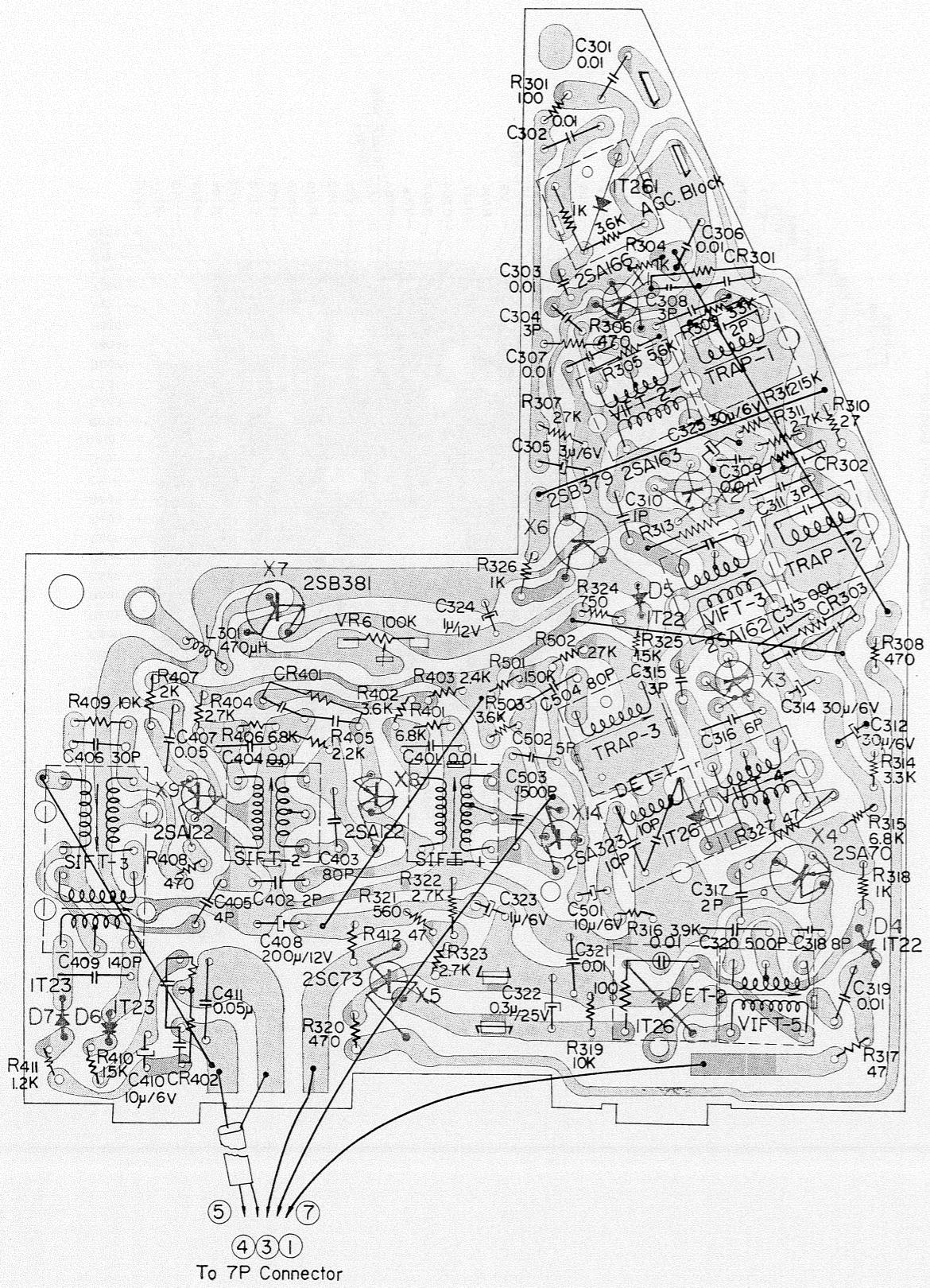
Schematic Diagram



Mounting Diagram

—Printed Side—

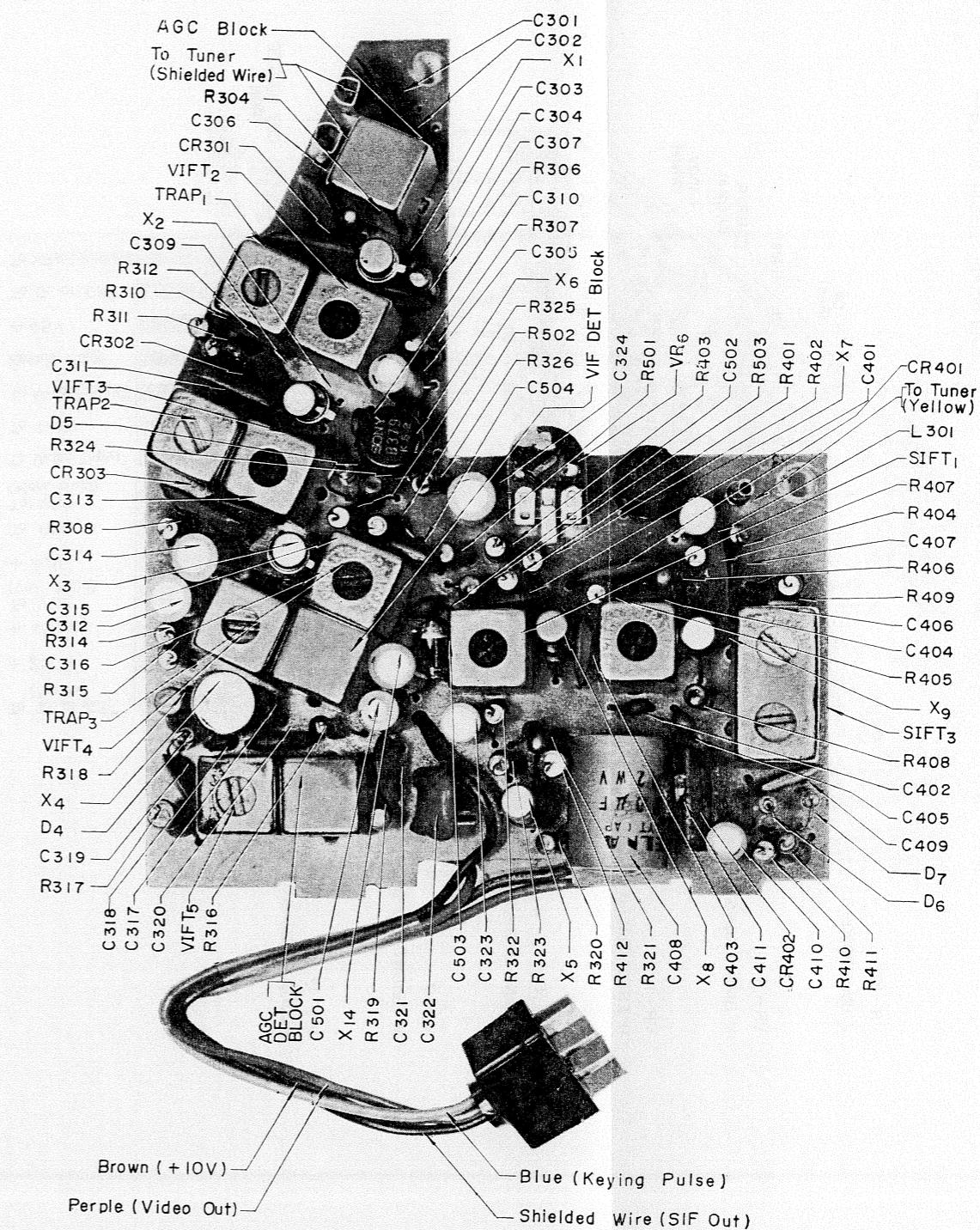
—Video Signal Circuit Board—



Mounting Diagram

—Parts Side—

—Video Signal Circuit Board—



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VR-10
V. BIAS 20KΩ-B

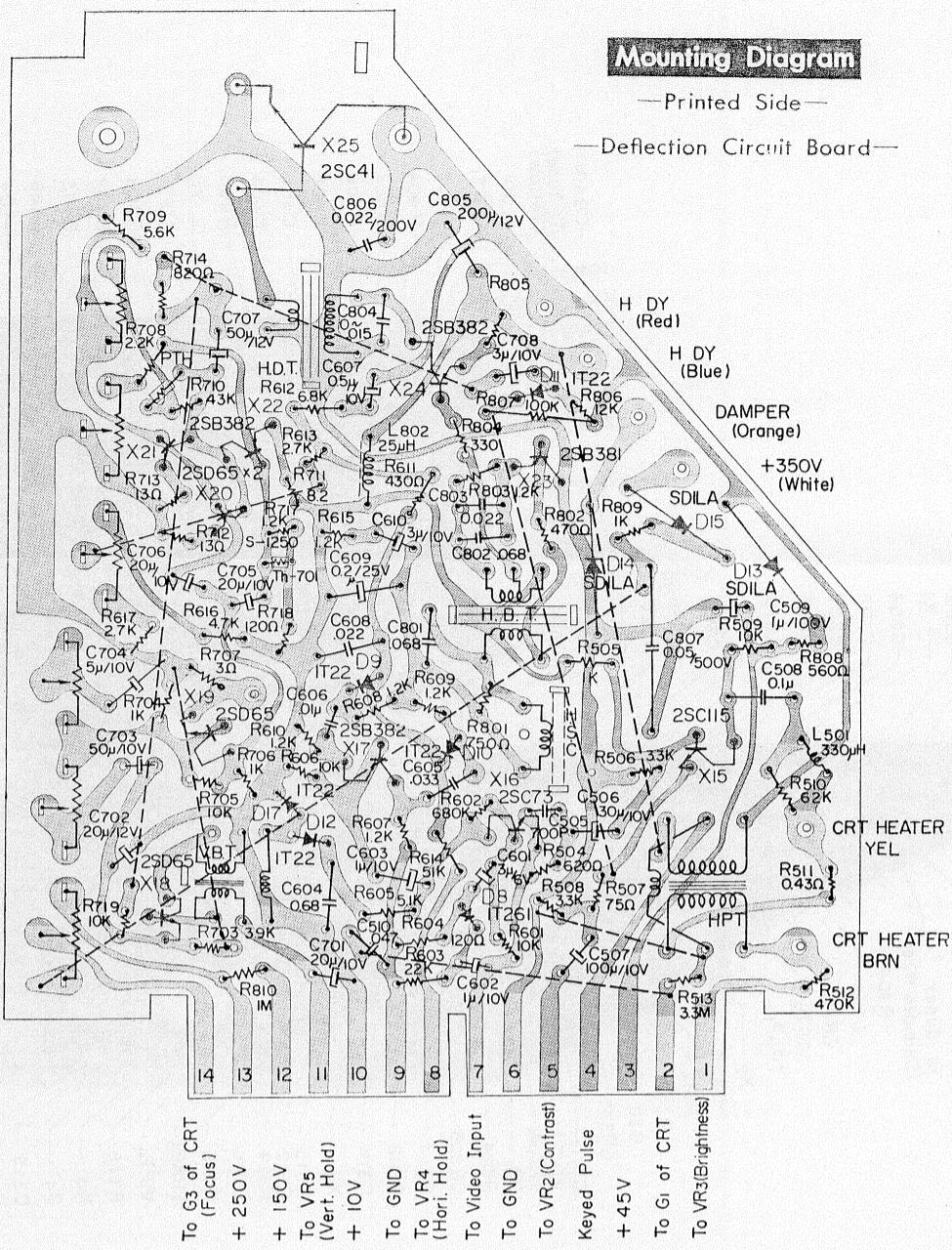
VR-9
V. BIAS 10KΩ-B

VR-11
H. FREQ 3KΩ-E

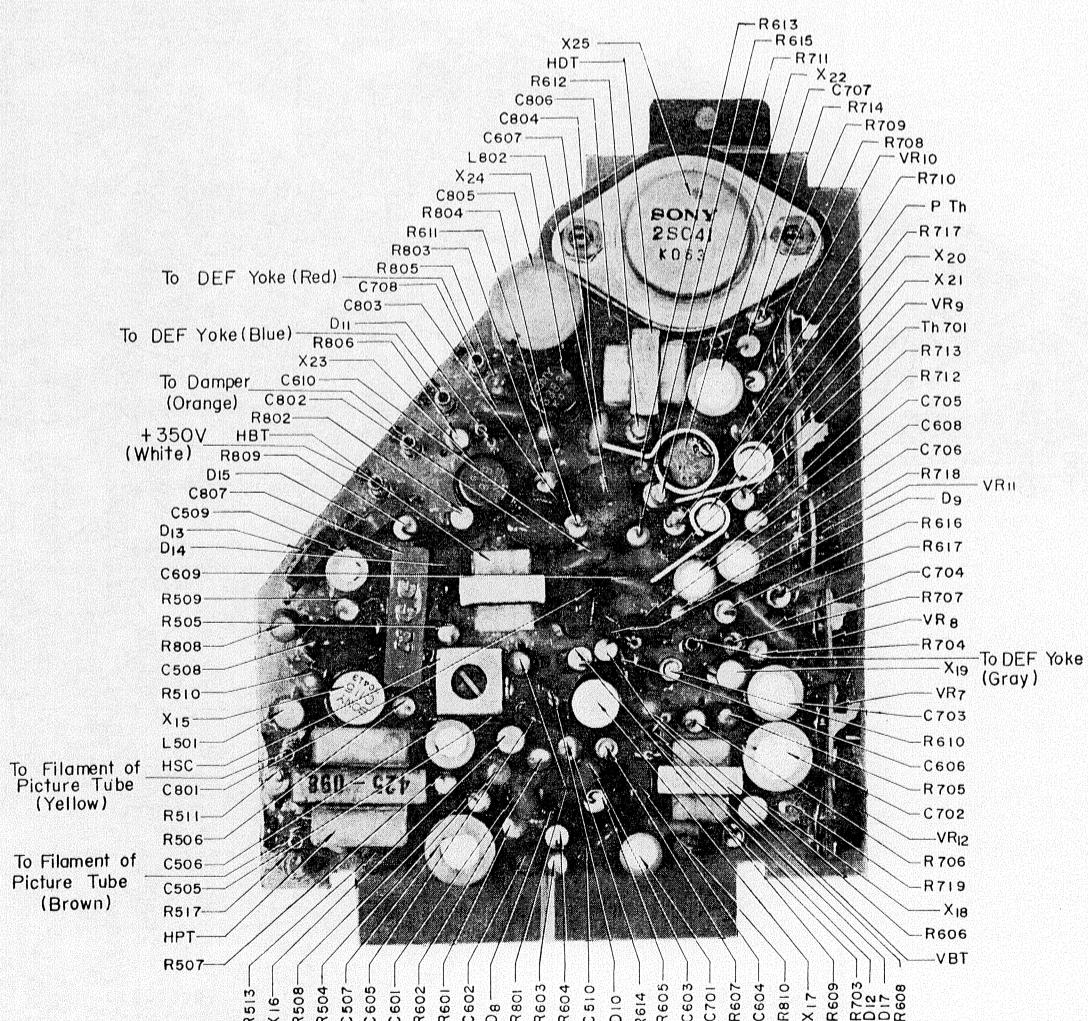
VR-8
V. LIN 3KΩ-B

VR-7
V. HEIGHT 3KΩ-B

VR-12
FOCUS 1MΩ-B



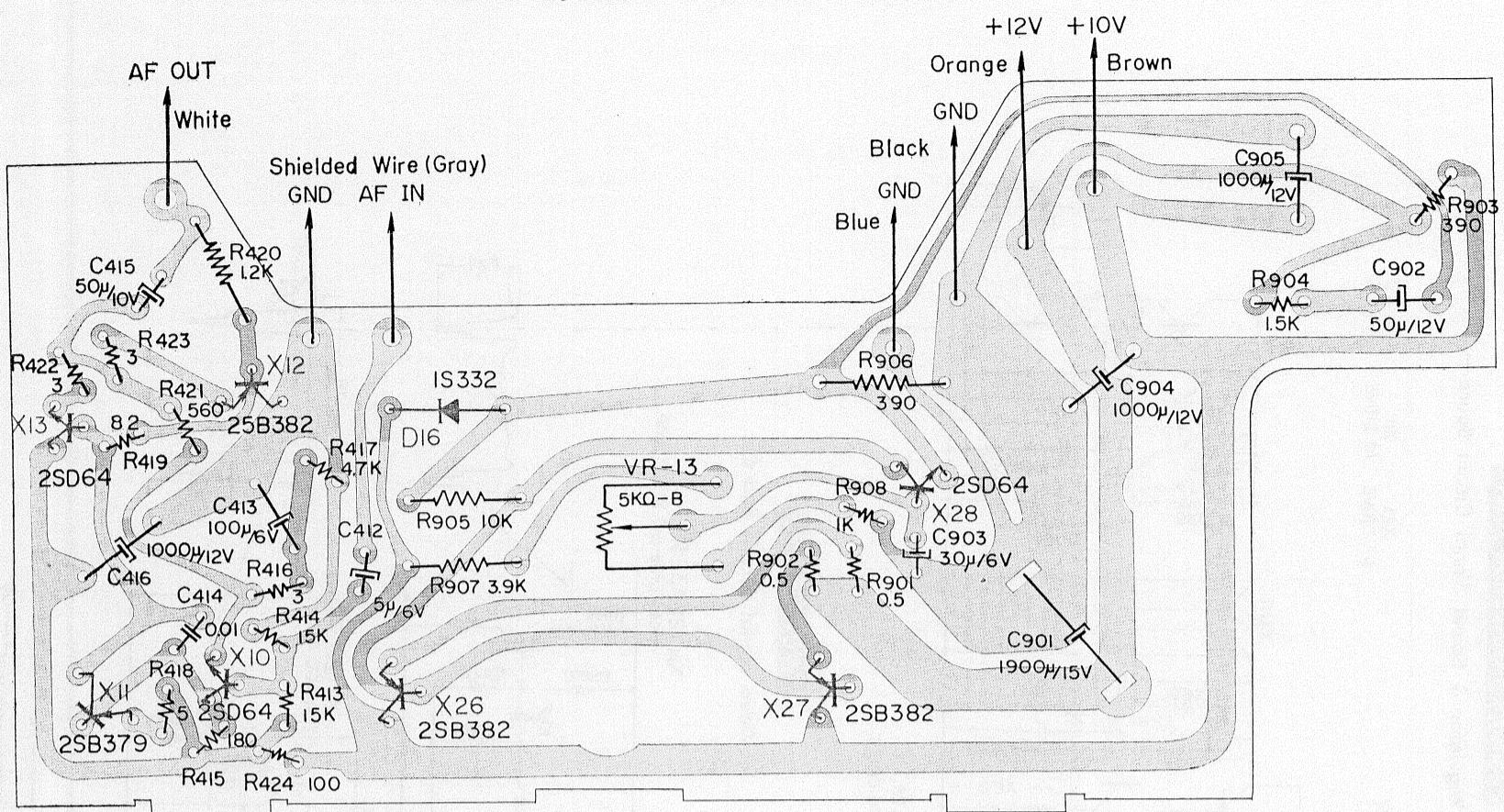
— 22 —



Mounting Diagram

— Printed Side —

Power Regulator & Sound Signal Circuit Board

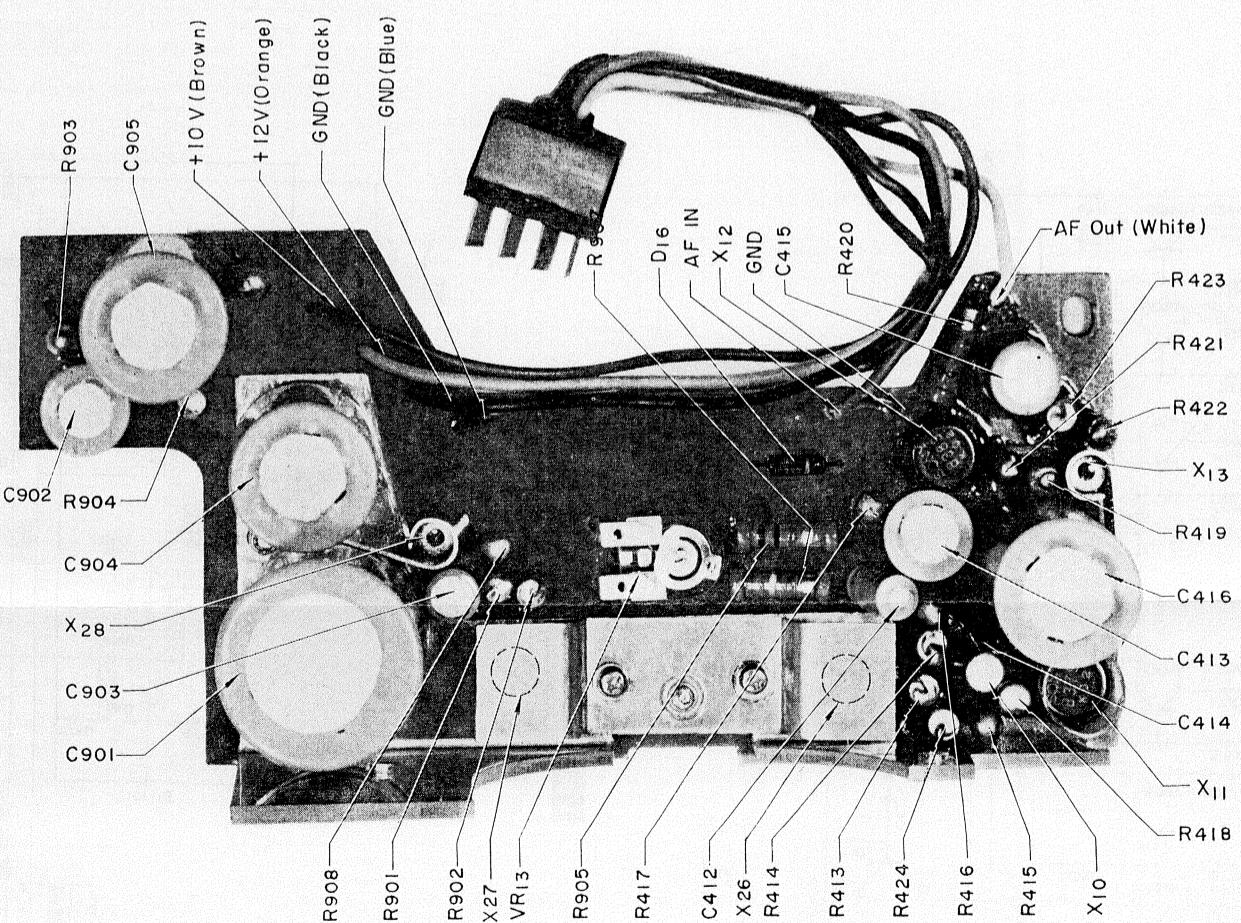


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Mounting Diagram

— Parts Side —

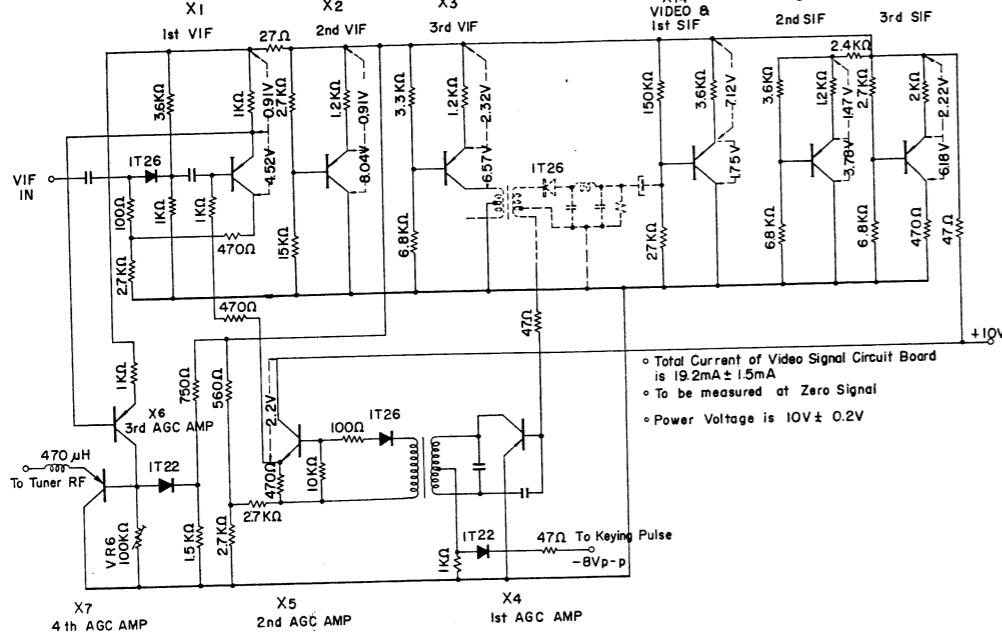
Power Regulator & Sound Signal Circuit Board



— 24 —

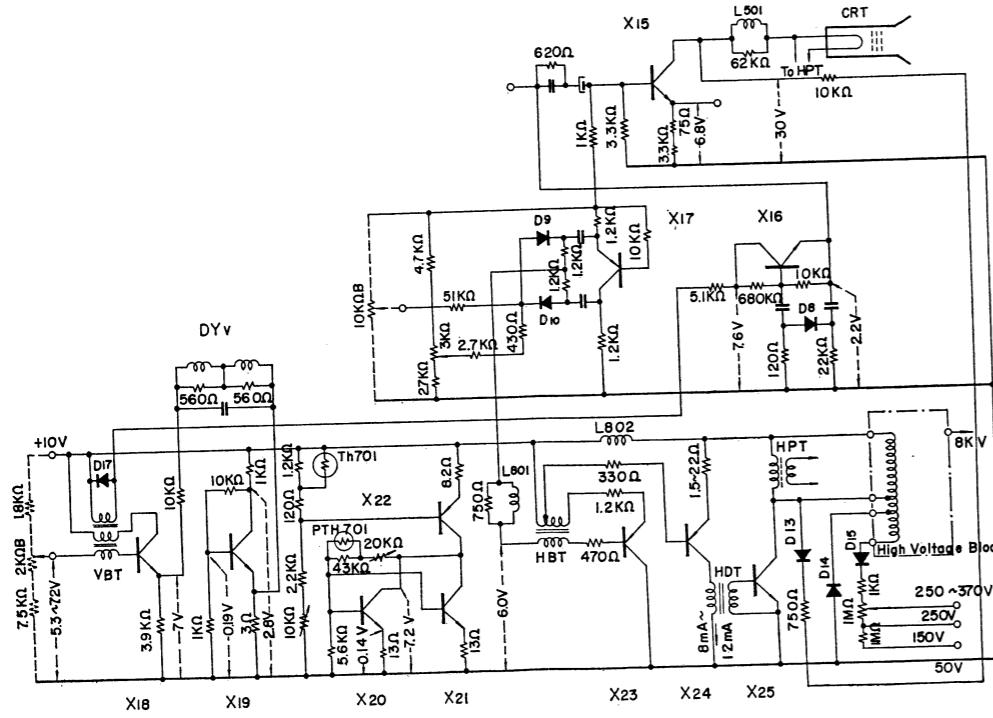
Voltage Distribution Chart

—Video Signal Circuit Board—



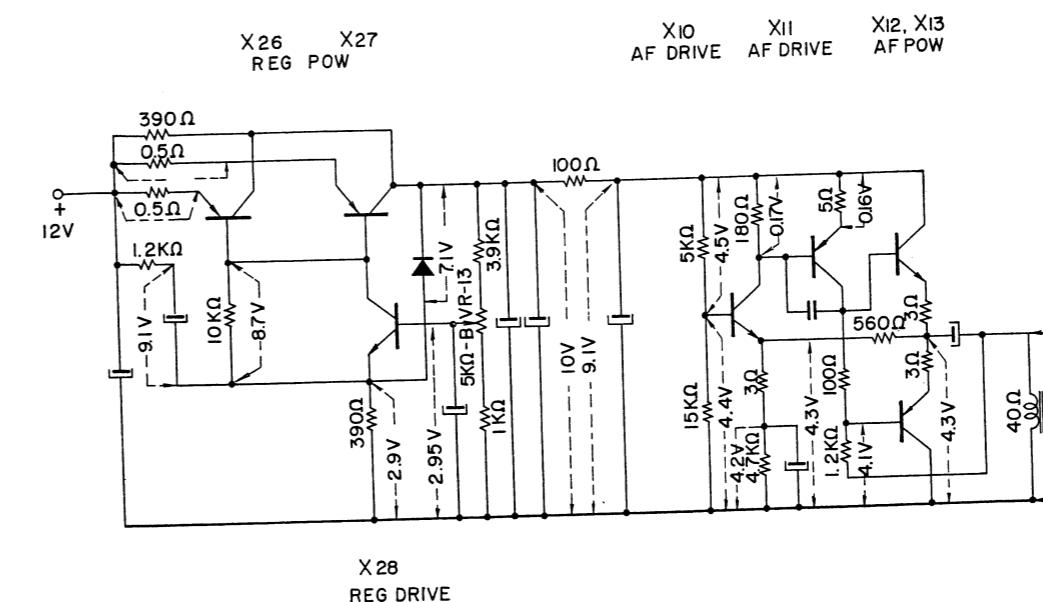
Voltage Distribution Chart

—Deflection Circuit Board—



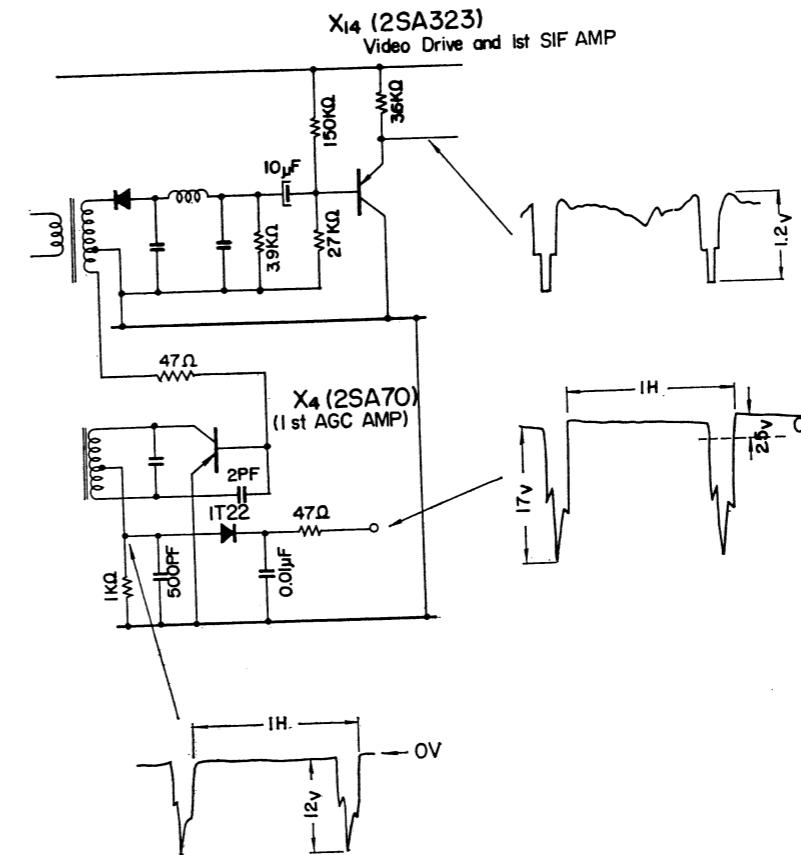
Voltage Distribution Chart

—Power Regulator & Sound Signal Circuit Board—



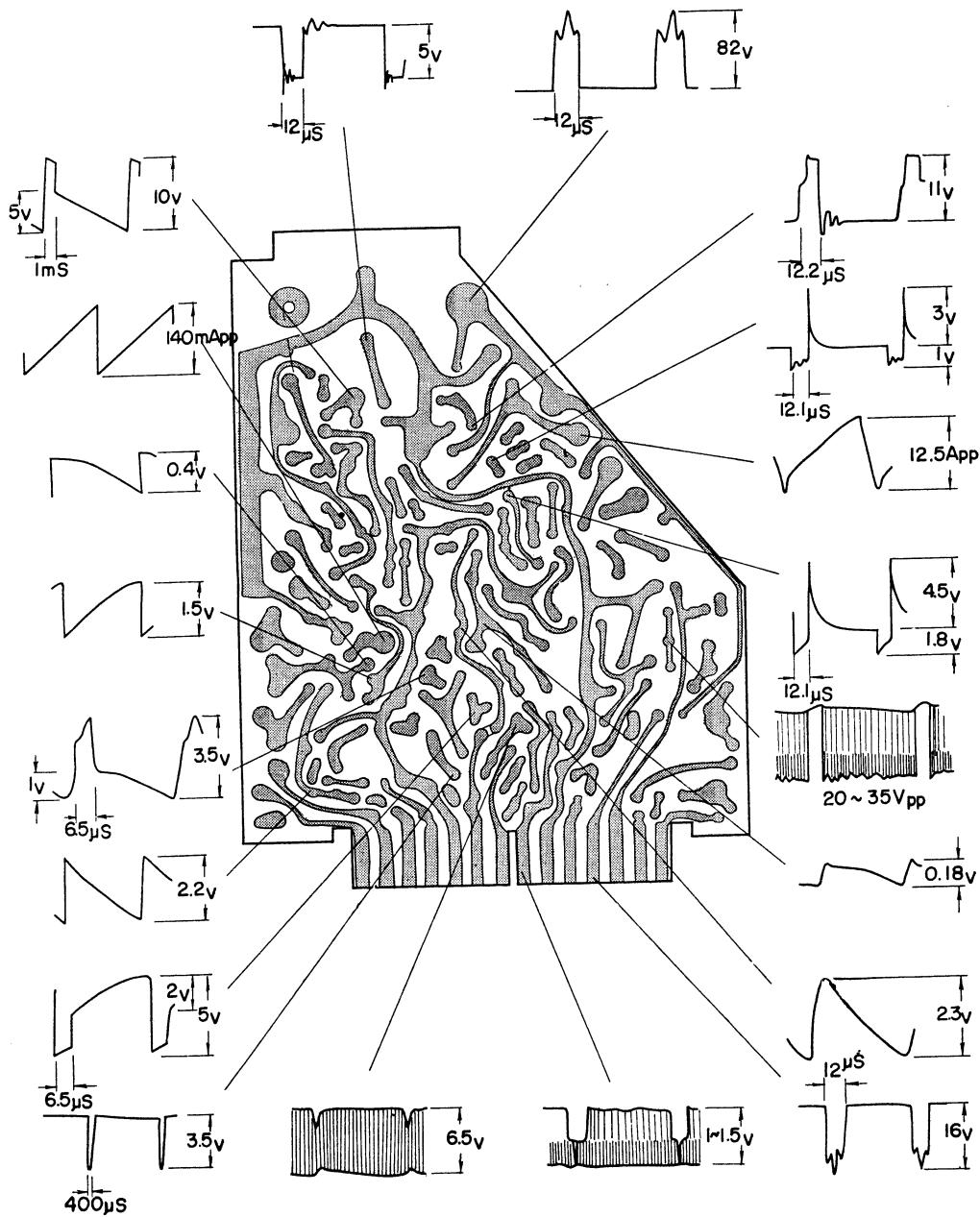
Wave Forms

—Video Signal Circuit Board—



Wave Forms

—Deflection Circuit Board—



Electrical Parts List (A)

Part No.	Symbol	Description	Part No.	Symbol	Description
		Transistor			
X ₂₀₁		2SA161 (RF)	1-902-489-11	L ₂₀₉	Jumper Wire (B)
X ₂₀₂		2SA161 (MIX)	1-425-052-11	L ₂₁₀	RF Coil
X ₂₀₃		2SA161 (OSC)	-051-12	L ₂₁₁	"
X ₁		2SA166 (1st VIF AMP)	-051-12	L ₂₁₂	"
X ₂		2SA163 (2nd VIF AMP)	1-407-035-12	L ₂₁₃	Micro Inductor
X ₃		2SA162 (3rd VIF AMP)	-052-11	L ₂₁₄	"
X ₄		2SA70 (1st AGC AMP)	1-902-601-11	L ₂₁₅	Jumper Wire (C)
X ₅		2SC73 (2nd AGC AMP)	1-407-052-11	L ₃₀₁	Micro Inductor
X ₆		2SB379 (3rd AGC AMP)	1-409-034-11	TRAP ₁	Trap Coil (22.25 Mc)
X ₇		2SB381 (4th AGC AMP)	-035-11	TRAP ₂	" (28.25 Mc)
X ₈		2SA122 (2nd SIF AMP)	-033-11	TRAP ₃	" (4.5 Mc)
X ₉		2SA122 (3rd SIF AMP)	1-403-434-11	VIFT ₂	Video IF Transformer (23.6 Mc)
X ₁₀		2SD64 (AF DRIVE)	-435-11	VIFT ₃	" (26.3 Mc)
X ₁₁		2SB379 (AF DRIVE)	-437-11	VIFT ₄	" (25.5 Mc)
X ₁₂		2SB382 (AF POW)	-419-02	VIFT ₅	" (26.78 Mc)
X ₁₃		2SD64 (AF POW)	-314-11	SIFT ₁	Sound IF Transformer
X ₁₄		2SA323 (VD & 1st SIF AMP)	-315-11	SIFT ₂	"
X ₁₅		2SC115 (VD OUT)	-313-11	SIFT ₃	"
X ₁₆		2SC73 (SYNC SEP & NOISE LIMIT)	-420-02	DET ₁	Detector Block
X ₁₇		2SB382 (SYNC SPLIT)	-431-11	DET ₂	"
X ₁₈		2SD65 (VERT OSC)	1-231-001-11		AGC Block
X ₁₉		2SD65 (VERT DRIVE)	1-407-050-11	L ₅₀₁	Micro Inductor
X ₂₀		2SD65 (VERT OUT)	1-413-005-11	L ₈₀₁	Stabilizing Coil for Horizontal Sweep
X ₂₁		2SD65 (VERT OUT)	1-421-013-11	L ₈₀₂	Horizontal Choke Coil (25 μ H)
X ₂₂		2SB381 (VERT OUT)	1-435-008-11	VBT	Vertical Blocking Transformer
X ₂₃		2SB381 (HOR OSC)	-009-11	HBT	Horizontal Blocking Transformer
X ₂₄		2SB382 (HOR DRIVE)	1-437-003-11	HDT	Horizontal Driver Transformer
X ₂₅		2SC41 (HOR OUT)	1-425-098-11	HPT	Horizontal Pulse Transformer
X ₂₆		2SB382 (REG POW)	1-439-010-11	HOT	Horizontal Output Transformer
X ₂₇		2SB382 (REG POW)	1-441-121-11	PT	Power Transformer
X ₂₈		2SD64 (REG DRIVE)			Potentiometer
		Diode	1-221-412-11	VR ₁	Volume Control 5 K Ω -T
D ₁		1T261	-416-11	VR ₂	Contrast Control 3 K Ω -C
D ₂		1T261	-415-11	VR ₃	Brightness Control 500 K Ω -B
D ₃		1T261	-414-11	VR ₄	Horizontal Hold Control 10 K Ω -B
D ₄		1T22	-413-11	VR ₅	Vertical Hold Control 2 K Ω -B
D ₅		1T22	-410-11	VR ₆	Semi-fixed Resistor 100 K Ω -B
D ₆		1T23	-355-11	VR ₇	Vertical Height Control 3 K Ω -B
D ₇		1T23	-355-11	VR ₈	Vertical Linearity Control 3 K Ω -B
D ₈		1T261	-327-00	VR ₉	Vertical Bias Control 10 K Ω -B
D ₉		1T22	-408-11	VR ₁₀	Vertical Bias Control 20 K Ω -B
D ₁₀		1T22	-355-11	VR ₁₁	Horizontal Frequency Control 3 K Ω -B
D ₁₁		1T22			Focus Control 1 M Ω -B
D ₁₂		1T22	-407-11	VR ₁₂	Semi-fixed Resistor 5 K Ω -B
D ₁₃		SD-1LA	-409-11	VR ₁₃	
D ₁₄		S2C40			Encapsulated Component
D ₁₅		SD-1LA	1-231-002-11	CR ₃₀₁	0.01 μ F X 2, 1 K Ω
D ₁₆		1S332	1-101-537-11	CR ₃₀₂	0.01 μ F X 2, 1.2 K Ω
D ₁₇		1T22	-537-11	CR ₃₀₃	0.01 μ F X 2, 1.2 K Ω
1-530-012-11	REC ₁	Silicon Rectifier S2TB	-537-11	CR ₄₀₁	0.01 μ F X 2, 1.2 K Ω
-012-11	REC ₂	// S2TB	-536-11	CR ₄₀₂	500 PF X 2, 3.3 K Ω X 2
		Thermistor			Resistor
8-690-006-00	Th ₇₀₁	S-1250	1-203-027-11	R ₁₀₁	560 Ω RD $\frac{1}{16}$ L Carbon
1-800-007-12	△PTH ₇₀₁	10 K Ω (Positive)	1-204-103-11	R ₂₀₁	2.7 K Ω RD $\frac{1}{16}$ SL //
		Coil & Transformers	1-203-192-11	R ₂₀₂	15 K Ω RD $\frac{1}{16}$ L //
1-409-027-11	L ₂₀₁	IF Trap Coil (A)	1-204-101-11	R ₂₀₃	240 Ω RD $\frac{1}{16}$ SL //
1-425-083-11	L ₂₀₂	RF Coil (D)	-102-11	R ₂₀₄	1 K Ω //
-049-11	L ₂₀₃	RF Coil (A)	-104-11	R ₂₀₅	4.7 K Ω //
-050-11	L ₂₀₄	RF Coil (B)	1-203-192-11	R ₂₀₆	15 K Ω RD $\frac{1}{16}$ L //
1-409-028-11	L ₂₀₅	IF Trap Coil (B)	1-204-102-11	R ₂₀₇	1 K Ω RD $\frac{1}{16}$ SL //
1-403-432-11	L ₂₀₆	IF Transformer	-102-11	R ₂₀₈	1 K Ω //
1-425-104-12	L ₂₀₇	Compensation Coil for Fine Tuning	-102-11	R ₂₀₉	1 K Ω //
1-902-488-11	L ₂₀₈	Jumper Wire (A)	-103-11	R ₂₁₀	2.7 K Ω //

△ Posistor is the thermistor which has positive characteristic of resistance against temperature.

—continued—

Part No.	Symbol	Description			Part No.	Symbol	Description		
1-203-190-11	R ₂₁₁	10 KΩ	RD ₁₆ ¹ L	Carbon	1-203-326-00	R ₆₀₁	680 KΩ	RD ₈ ¹ RL	Carbon
1-204-103-11	R ₂₁₂	2.7 KΩ	RD ₃₂ ¹ SL	"	-326-00	R ₆₀₂	680 KΩ	"	"
-041-11	R ₂₁₃	240 Ω	RD ₁₆ ¹ L	"	-387-00	R ₆₀₃	22 KΩ	"	"
-080-11	R ₂₁₄	820 Ω	"	"	-759-00	R ₆₀₄	120 KΩ	"	"
-104-11	R ₂₁₅	4.7 KΩ	RD ₃₂ ¹ SL	"	-377-00	R ₆₀₅	5.1 KΩ	"	"
-109-11	R ₂₁₆	1.5 KΩ	"	"	-383-00	R ₆₀₆	10 KΩ	"	"
-103-11	R ₂₁₇	2.7 KΩ	"	"	-368-00	R ₆₀₇	1.2 KΩ	"	"
-103-11	R ₂₁₈	2.7 KΩ	"	"	-368-00	R ₆₀₈	1.2 KΩ	"	"
-105-11	R ₂₁₉	5.1 KΩ	"	"	-368-00	R ₆₀₉	1.2 KΩ	"	"
-104-11	R ₂₂₀	4.7 KΩ	"	"	-368-00	R ₆₁₀	1.2 KΩ	"	"
-105-11	R ₂₂₁	5.1 KΩ	"	"	-760-00	R ₆₁₁	430 Ω	"	"
1-203-594-00	R ₃₀₁	100 Ω	RD ₁₆ ¹ L	"	-381-00	R ₆₁₂	6.8 KΩ	"	"
	R ₃₀₂	—deleted—			-372-00	R ₆₁₃	2.7 KΩ	"	"
	R ₃₀₃	—deleted—			-393-00	R ₆₁₄	51 KΩ	"	"
1-203-421-00	R ₃₀₄	1 KΩ	RD ₁₆ ¹ RL	Carbon	-368-00	R ₆₁₅	1.2 KΩ	"	"
-186-00	*R ₃₀₅	5.6 KΩ	"	"	-376-00	R ₆₁₆	4.7 KΩ	"	"
-420-00	R ₃₀₆	470 Ω	"	"	-372-00	R ₆₁₇	2.7 KΩ	"	"
-428-00	R ₃₀₇	27 KΩ	"	"	-131-00	R ₇₀₁	7.5 KΩ	RD ₄ ¹ L	"
-420-00	R ₃₀₈	470 Ω	"	"	-151-00	R ₇₀₂	1.8 KΩ	"	"
-884-00	R ₃₀₉	33 KΩ	"	"	-061-00	R ₇₀₃	3.9 KΩ	"	"
-895-00	R ₃₁₀	27 Ω	"	"	-367-00	R ₇₀₄	1 KΩ	"	"
-447-00	R ₃₁₁	2.7 KΩ	"	"	-383-00	R ₇₀₅	10 KΩ	"	"
-629-00	R ₃₁₂	15 KΩ	"	"	-367-00	R ₇₀₆	1 KΩ	"	"
-190-00	*R ₃₁₃	10 KΩ	RD ₁₆ ¹ L	"	1-207-019-00	R ₇₀₇	3 Ω	RW ₄ ¹ RL	Wire Wound
-434-00	R ₃₁₄	3.3 KΩ	RD ₁₆ ¹ RL	"	1-203-370-00	R ₇₀₈	2.2 KΩ	RD ₈ ¹ RL	Carbon
-438-00	R ₃₁₅	6.8 KΩ	"	"	-378-00	R ₇₀₉	5.6 KΩ	"	"
-878-00	R ₃₁₆	3.9 KΩ	"	"	-391-00	R ₇₁₀	43 KΩ	"	"
-414-00	R ₃₁₇	47 Ω	RD ₈ ¹ RL	"	1-207-024-00	R ₇₁₁	8.2 Ω	RW ₄ ¹ RL	Wire Wound
-421-00	R ₃₁₈	1 KΩ	"	"	-042-00	R ₇₁₂	13 Ω	"	"
-427-00	R ₃₁₉	10 KΩ	RD ₁₆ ¹ RL	"	-042-00	R ₇₁₃	13 Ω	"	"
-420-00	R ₃₂₀	470 Ω	"	"	1-203-366-00	R ₇₁₄	820 Ω	RD ₈ ¹ RL	Carbon
-445-00	R ₃₂₁	560 Ω	"	"	-363-00	R ₇₁₅	560 Ω	"	"
-447-00	R ₃₂₂	2.7 KΩ	"	"	-363-00	R ₇₁₆	560 Ω	"	"
-447-00	R ₃₂₃	2.7 KΩ	"	"	-368-00	R ₇₁₇	1.2 KΩ	"	"
-621-00	R ₃₂₄	750 Ω	"	"	-759-00	R ₇₁₈	120 Ω	"	"
-422-00	R ₃₂₅	1.5 KΩ	"	"	-383-00	R ₇₁₉	10 KΩ	"	"
-421-00	R ₃₂₆	1 KΩ	"	"	-335-00	R ₈₀₁	750 Ω	"	"
-478-11	R ₃₂₇	47 Ω	RD ₁₆ ¹ L	"	-361-00	R ₈₀₂	470 Ω	"	"
-438-00	R ₄₀₁	6.8 KΩ	RD ₁₆ ¹ RL	"	-368-00	R ₈₀₃	1.2 KΩ	"	"
-892-00	R ₄₀₂	3.6 KΩ	"	"	-360-00	R ₈₀₄	330 Ω	"	"
-836-00	R ₄₀₃	2.4 KΩ	"	"	1-207-021-50	*R ₈₀₅	4.7 Ω	RW ₄ ¹ RL	Wire Wound
-447-00	R ₄₀₄	2.7 KΩ	"	"	1-203-384-00	R ₈₀₆	12 KΩ	RD ₈ ¹ RL	Carbon
-423-00	R ₄₀₅	2.2 KΩ	"	"	-399-00	R ₈₀₇	100 KΩ	"	"
-438-00	R ₄₀₆	6.8 KΩ	"	"	-363-00	R ₈₀₈	560 Ω	"	"
-446-00	R ₄₀₇	2 KΩ	"	"	-367-00	R ₈₀₉	1 KΩ	"	"
-420-00	R ₄₀₈	470 Ω	"	"	1-201-600-00	R ₈₁₀	1 MΩ	RC ₁₆ ¹ L	Composition
-427-00	R ₄₀₉	10 KΩ	"	"	-455-00	R ₈₁₁	1.5 MΩ	"	"
-422-00	R ₄₁₀	1.5 KΩ	"	"	1-207-058-11	R ₉₀₁	0.5 Ω	RW ₄ ¹ RL	Wire Wound
-780-00	R ₄₁₁	1.2 KΩ	"	"	-058-11	R ₉₀₂	0.5 Ω	"	"
-414-00	R ₄₁₂	47 Ω	RD ₈ ¹ RL	"	1-203-412-00	R ₉₀₃	390 Ω	RD ₈ ¹ RL	Carbon
-617-00	R ₅₀₁	150 KΩ	RD ₁₆ ¹ RL	"	-368-00	R ₉₀₄	1.2 KΩ	"	"
-428-00	R ₅₀₂	27 KΩ	"	"	-069-00	R ₉₀₅	10 KΩ	RD ₄ ¹ L	"
-892-00	R ₅₀₃	3.6 KΩ	"	"	-143-00	R ₉₀₆	390 Ω	"	"
-857-00	R ₅₀₄	620 Ω	RD ₈ ¹ RL	"	-061-00	R ₉₀₇	3.9 KΩ	"	"
-367-00	R ₅₀₅	1 KΩ	"	"	-367-00	R ₉₀₈	1 KΩ	RD ₈ ¹ RL	"
-373-00	*R ₅₀₆	3.3 KΩ	"	"	1-201-455-00	R ₉₀₉	1.5 MΩ	RC ₁₆ ¹ L	Composition
-611-00	R ₅₀₇	75 Ω	"	"	-455-00	R ₉₁₀	1.5 MΩ	"	"
-373-00	R ₅₀₈	3.3 KΩ	"	"	Capacitor				
-383-00	R ₅₀₉	10 KΩ	"	"	1-101-562-11	C ₃₀₁	50 PF	Ceramic	
-395-00	R ₅₁₀	62 KΩ	"	"	1-141-060-11	C ₃₀₂	Cylindrical Trimmer	Capacitor	
1-207-058-00	*R ₅₁₁	0.5 Ω	RW ₄ ¹ RL	Wire Wound	1-101-575-11	C ₃₀₃	14 PF	Ceramic	
1-203-442-00	R ₅₁₂	470 KΩ	RD ₈ ¹ RL	Carbon	-561-11	C ₃₀₄	30 PF	"	
1-201-596-00	R ₅₁₃	3.3 MΩ	RC ₁₆ ¹ L	Composition	-565-11	C ₃₀₅	25 PF	"	
1-203-383-00	R ₆₀₁	10 KΩ	RD ₈ ¹ RL	Carbon	-568-11	C ₃₀₆	2.1 PF	"	
					-569-11	C ₃₀₇	12 PF	"	

* To be adjusted

—continued—

Part No.	Symbol	Description	Part No.	Symbol	Description
1-141-060-11	C ₂₀₈	Cylindrical Trimmer Capacitor	1-101-007-11	C ₄₀₇	0.05 μ F Ceramic
1-101-072-14	C ₂₀₉	0.01 μ F Ceramic	1-121-121-00	C ₄₀₈	200 μ F 12 V Electrolytic
-125-11	C ₂₁₀	0.001 μ F "	1-101-571-11	C ₄₀₉	140 PF Ceramic
1-141-060-11	C ₂₁₁	Cylindrical Trimmer Capacitor	1-121-104-00	C ₄₁₀	10 μ F 6 V Electrolytic
1-101-556-11	C ₂₁₂	6 PF Ceramic	1-101-007-11	C ₄₁₁	0.05 μ F Ceramic
-559-11	C ₂₁₃	15 PF "	1-121-106-05	C ₄₁₂	5 μ F 6 V Electrolytic
-561-11	C ₂₁₄	30 PF "	1-105-673-12	C ₄₁₃	100 μ F 6 V "
-559-11	C ₂₁₅	15 PF "	1-121-128-05	C ₄₁₄	0.01 μ F Mylar
-573-11	C ₂₁₆	120 PF "	-186-05	C ₄₁₅	50 μ F 10 V Electrolytic
-125-11	C ₂₁₇	0.001 μ F "	-104-00	C ₄₁₆	1000 μ F 12 V "
-565-11	C ₂₁₈	25 PF "	1-101-012-11	C ₅₀₁	10 μ F 6 V "
-553-11	C ₂₁₉	3 PF "	1-103-305-11	C ₅₀₂	5 PF Ceramic
	C ₂₂₀	Fine Tuning Capacitor	1-101-113-18	C ₅₀₃	500 PF Styrol
1-101-554-11	C ₂₂₁	4 PF Ceramic	-439-11	C ₅₀₄	80 PF Ceramic
-572-11	C ₂₂₂	7 PF "	1-121-110-05	C ₅₀₅	700 PF "
-557-11	C ₂₂₃	10 PF "	-159-05	C ₅₀₆	30 μ F 10 V Electrolytic
-563-11	C ₂₂₄	50 PF "	1-105-685-12	C ₅₀₇	100 μ F 10 V "
-125-11	C ₂₂₅	0.001 μ F "	1-121-148-05	C ₅₀₈	0.1 μ F Mylar
-125-11	C ₂₂₆	0.001 μ F "	1-105-681-12	C ₅₀₉	1 μ F 100 V Electrolytic
-544-11	C ₂₂₇	1800 PF "	1-127-907-00	C ₅₁₀	0.047 μ F Mylar
-544-11	C ₂₂₈	1800 PF "	-906-00	C ₆₀₁	3 μ F 6 V Electrolytic (Alox)
-544-11	C ₂₂₉	1800 PF "	-906-00	C ₆₀₂	1 μ F 10 V " (")
-560-11	C ₂₃₀	20 PF "	-906-00	C ₆₀₃	1 μ F 10 V " (")
-555-11	C ₂₃₁	5 PF "	1-105-683-12	C ₆₀₄	0.068 μ F Mylar
-561-11	C ₂₃₂	30 PF "	-679-12	C ₆₀₅	0.033 μ F "
-004-11	C ₃₀₁	0.01 μ F "	1-127-916-11	C ₆₀₆	0.01 μ F "
-004-11	C ₃₀₂	0.01 μ F "	1-105-677-12	C ₆₀₇	0.5 μ F 10 V Electrolytic (Alox)
-072-15	C ₃₀₃	0.01 μ F "	1-127-919-11	C ₆₀₈	0.022 μ F Mylar
-011-11	C ₃₀₄	3 PF "	-907-00	C ₆₀₉	0.2 μ F 25 V Electrolytic (Alox)
1-121-131-00	C ₃₀₅	3 μ F 6 V Electrolytic	1-121-127-05	C ₆₁₀	3 μ F 10 V " (")
1-101-004-11	C ₃₀₆	0.01 μ F Ceramic	-085-11	C ₇₀₁	20 μ F 10 V "
-004-11	C ₃₀₇	0.01 μ F "	-128-05	C ₇₀₂	20 μ F 12 V "
-011-11	C ₃₀₈	3 PF "	1-127-914-00	C ₇₀₃	50 μ F 10 V "
-072-15	C ₃₀₉	0.01 μ F "	1-121-127-05	C ₇₀₄	5 μ F 6 V " (Alox)
-009-11	C ₃₁₀	1 PF "	C ₇₀₅	20 μ F 10 V "	
-011-11	C ₃₁₁	3 PF "	C ₇₀₆	20 μ F 10 V "	
1-121-102-00	C ₃₁₂	30 μ F 6 V Electrolytic	-127-05	C ₇₀₇	60 μ F 12 V "
1-101-004-11	C ₃₁₃	0.01 μ F Ceramic	-221-11	C ₇₀₈	3 μ F 10 V " (Alox)
1-121-102-00	C ₃₁₄	30 μ F 6 V Electrolytic	1-127-908-00	C ₇₀₉	0.047 μ F Mylar
1-101-011-11	C ₃₁₅	3 PF Ceramic	1-105-721-11	C ₈₀₁	0.068 μ F "
-093-11	C ₃₁₆	6 PF "	-683-12	C ₈₀₂	0.068 μ F "
-010-11	C ₃₁₇	2 PF "	-677-12	*C ₈₀₃	0.022 μ F "
-095-11	C ₃₁₈	8 PF "	-675-12	*C ₈₀₄	0.015 μ F "
-004-11	C ₃₁₉	0.01 μ F "	1-121-220-11	C ₈₀₅	200 μ F 12 V Electrolytic
-423-11	C ₃₂₀	500 PF "	1-105-665-12	C ₈₀₆	0.022 μ F Mylar
-004-11	C ₃₂₁	0.01 μ F "	1-113-122-11	C ₈₀₇	0.05 μ F 500 V PS
1-127-920-11	C ₃₂₂	0.3 μ F 25 V Electrolytic (Alox)	1-101-592-11	C ₈₀₈	500 PF Ceramic
1-121-145-00	C ₃₂₃	1 μ F 6 V "	-592-11	C ₈₀₉	500 PF "
-116-00	C ₃₂₄	1 μ F 12 V "	-591-11	C ₈₁₀	500 PF "
-102-00	C ₃₂₅	30 μ F 6 V "	-591-11	C ₈₁₁	500 PF "
1-101-004-11	C ₄₀₁	0.01 μ F Ceramic	-591-11	C ₈₁₂	500 PF "
-010-11	C ₄₀₂	2 PF "	1-121-025-11	C ₉₀₁	1900 μ F 15 V Electrolytic
-113-18	C ₄₀₃	80 PF "	-188-05	C ₉₀₂	50 μ F 12 V "
-004-11	C ₄₀₄	0.01 μ F "	-102-05	C ₉₀₃	30 μ F 6 V "
-048-11	C ₄₀₅	4 PF "	-186-05	C ₉₀₄	1000 μ F 12 V "
-115-17	C ₄₀₆	30 PF "	-186-05	C ₉₀₅	1000 μ F 12 V "

Part No.	Description	Q'ty	Part No.	Description	Q'ty
Y-44026-15-1	Tuner Block	1	X-40038-54-1	Power Regulator & Sound Signal Block	1
X-40038-52-1	Video Signal Block	1	1-453-007-11	High Voltage Block	1
X-40043-49-1	Deflection Block	1	1-451-008-12	Deflection Yoke	1

Electrical Parts List (B)

Part No.	Description	Q'ty	Part No.	Description	Q'ty
	Picture Tube		1-203-363-00	Carbon Resistor $560\Omega \pm 5\%$ 1/8 watt	(2)
73110410}	Picture Tube CT-465	1	1-501-050-12	Main and Appearance Block	1
73110420}	High Voltage Rectifier 1SK2 (Built in High Voltage Block)	(5)	4-003-867-01	Telescopic Antenna, including	
1-525-062-11			-334-01	Bracket	(1)
	General		4-002-717-01	Antenna Lug	(1)
1-538-175-12	Video Signal Block		-715-01	Insulator Bushing	(1)
	Printed Circuit Board for Video Signal Block	1	-728-00	Antenna Washer	(1)
1-506-108-00	Connecting Pin	1	-727-00	Lock Nut 3 ϕ	(1)
1-507-109-00	Connector Tip	4	7-623-412-01	Nut 3 ϕ	(1)
1-506-065-11	Plug A (Type 7-P)	1	X-40038-14-3	Washer 5 ϕ	(1)
	Deflection Block		1-545-003-11	Telescopic Antenna	(1)
1-538-176-12	Printed Circuit Board for Deflection Block	1	1-502-101-13	Multi-Jack (14 Terms)	1
1-506-108-00	Connecting Pin	8	-12)	Speaker 40 Ω , 5 cm in Diameter	1
1-538-177-11	Power Regulator & Sound Signal Block		1-507-011-01	Earphone Jack	1
	Printed Circuit Board for Power Regulator & Sound Signal Block	1	-901-02	Earphone Jack Nut	2
1-506-066-11	Plug B (Type 7-P)	1	1-507-094-11	7 P Jack A	1
	High Voltage Block		-095-11	7 P Jack B	1
1-453-007-11	High Voltage Block, including	1	1-506-064-11	2 P Plug	1
4-003-890-01	High Voltage Block Case	(1)	1-532-044-11	Fuse 1.0 A	1
-891-01	High Voltage Block Tube Mounter	(1)	1-526-055-11	Picture Tube Socket	1
-892-01	High Voltage Block Shielded Case	(1)	1-535-018-12	Power Receptacle (with 3 Connectors & Fuse Holder)	1
-893-01	High Voltage Block Mounting Bracket	(1)	1-536-058-11	Connector Tip F	1
-894-01	Fiber	(1)	1-507-114-12	2 P Jack	1
1-526-104-11	Anode Connector	(1)	-115-11	External Antenna Jack	1
1-439-010-11	Horizontal Output Transformer	(1)	Y-44026-45-1	Tuner Block	
1-525-062-11	High Voltage Rectifier 1SK2	(5)	1-534-042-20	Tuner BT-203 W	1
1-101-592-11	Ceramic Capacitor 500 PF \times 2 4 KV	(1)	1-504-010-02	Accessories	
-591-11	" " 500 PF \times 3 4 KV	(1)	1-534-155-11	Extension Cord	1
1-536-058-11	Connector Tip (F)	(2)	1-441-121-11	Earphone	1
4-002-848-01	Screw for Core	(2)	1-530-012-11	AC Power Cord (ACC-2W), including	1
-897-01	Fiber A	(1)	4-004-328-01	Power Transformer	(1)
-898-01	Bobbin	(1)	4-004-328-01	Silicon Rectifier	(2)
7-622-105-00	Nut 2 ϕ	(2)	-329-01	Trans. Cover A	(1)
	Deflection Yoke		4-003-916-01	" " B	(1)
1-451-008-12	Deflection Yoke, including	1	-916-01	AC Plug Right	(1)
4-003-933-01	Core	(1)	-918-01	" " Left	(1)
-899-01	Yoke Band	(2)	4-004-330-01	Grommet	(1)
-900-01	Terminal Plate	(2)	-331-01	AC Cord with 3 P Plug	(1)
-901-01	Centering Spring	(1)	-332-01	Cable Clamp	(1)
-902-01	Centering Magnet	(2)	1-201-455-00	Long Screw 53 mm (Long)	(2)
-903-01	Yoke Cover	(1)	1-501-047-21	Composition Resistor 1.5 M Ω , 1/2 W	
-975-02	Yoke Mounter	(1)	X-40038-24-1	$R_{909, 910}$	(2)
1-536-058-11	Connector Tip (F)	(4)	4-003-930-01	Shoulder Strap Antenna, including	1
7-621-309-55	Screw F 2.6 \times 8	(3)	4-004-327-01	Hook Assembly	(2)
	Eyelet 2 \times 2	(6)	4-004-327-01	Connection Cord with Plug	(1)
1-105-721-11	Mylar Capacitor 0.047 μ F 100 WV	(1)	Y-44017-02-3	Tag	(1)
				External Antenna Connector EAC-4	1

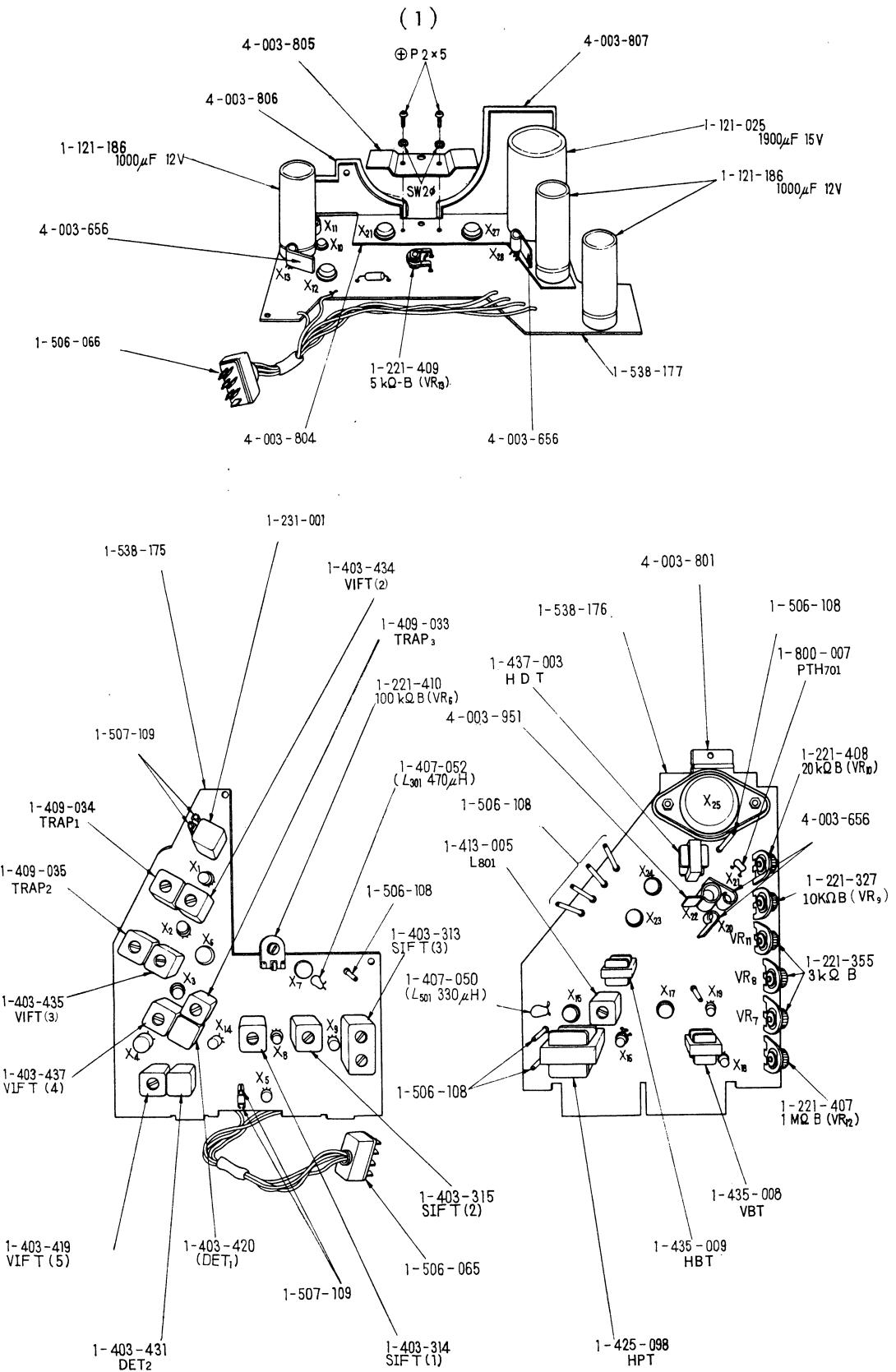
Mechanical Parts List

Part No.	Description	Q'ty	Part No.	Description	Q'ty
A. General					
Cabinet & Appearance Items					
X-40038-03-1	Front Panel Assembly, including	1	4-003-857-01	Lid Cushion	(2)
4-003-809-02	Mask	(1)	-858-01	Lid Screw	(1)
-810-01	Panel (left)	(1)	4-004-307-01	Battery Name Plate	(1)
-811-01	Panel Spacer (left)	(1)	-960-01	Specification Label	1
4-004-812-02	Panel (right)	(1)	X-40038-13-2	Main Chassis Block	
4-003-941-02	Panel Spacer (right)	(1)	4-003-860-02	Chassis Assembly, including	1
-813-01	Picture Tube Escutcheon	(1)	-861-01	Chassis	(1)
X-40038-05-1	SONY Badge Assembly, including	1	-862-01	Post for Battery Pack	(1)
4-003-814-01	Badge Mounter	(1)	-893-01	Post for Signal Circuit Board	(1)
-815-01	Badge "SONY"	(1)	-864-01	Bracket for Multi-Jack	1
4-003-816-01	Front Frame	1	-865-01	Tuner Mounting Plate	1
-817-01	Pull Rod Mounter (A)	2	-961-02	Screw for 2-P Plug	1
-818-01	" " " (B)	2	-984-01	Screw for 2-P Plug (Large)	1
0-209-526-01	Speaker Mounter	2	4-002-786-00	Black Insulating Tape for Signal Circuit	
4-003-819-01	Picture Tube Protector	1	4-003-801-01	Board	
-820-01	Picture Tube Clamp	1	4-003-801-01	Insulating Tape	1
-821-01	Pull Rod for Picture Tube	4	4-003-801-01	Deflection Block	
X-40038-06-4	Cabinet Back Assembly, including	1	4-003-801-01	Heat Sink for Hori. Out. Transistor	
4-003-822-03	Cabinet Upper Part	(1)	(2SC41)		1
-823-02	Cabinet Lower Part	(1)	4-003-801-01	Heat Sink for Vert. Out. Transistor	
-824-02	Joint for Cabinet	(2)	(2SB381)		1
-825-02	Badge "SONY"	(1)	4-003-801-01	Heat Sink for Vert. Out. Transistor	
X-40038-19-1	Carrying Handle Assembly, including	1	4-003-804-01	(2SD65)	2
4-003-826-01	Handle	(1)	4-003-804-01	Black Sheet on Deflection Circuit Board	1
-834-01	Leather for Handle	(1)	4-003-804-01	Power Regulator & Sound Signal Block	
-827-01	Stand Lock Gear (Stator)	2	4-003-804-01	Heat Sink A	1
-828-01	Stand Lock Gear (Rotor)	2	4-003-804-01	" " B	1
-829-01	Wave Washer	2	4-003-804-01	Mylar Tape (Small)	1
-830-01	Handle Shaft	2	4-003-804-01	" " (Large)	1
-831-01	Nut for Shaft	2	4-003-804-01	Insulator for Electrolytic Capacitor	1
-832-01	Screw for Shaft	2	4-003-804-01	Heat Sink for Transistor (2SD64)	2
-833-01	Cover for Washer	2	4-003-804-01	Black Sheet on Power Supply Board	1
4-002-730-00	Rubber Foot	2	4-004-319-01	Carton and Accessories	
4-003-835-01	Telescopic Antenna Bushing	1	4-004-319-01	Styro-foam Cushion (A)	1
X-40038-07-2	Fine Tuning Knob Assembly, including	1	4-004-319-01	Styro-foam Cushion B Assembly, including	1
4-003-836-02	Fine Tuning Knob	(1)	4-004-320-01	Styro-foam Cushion (B)	(1)
-250-01	Spring	(1)	4-003-988-01	Styro-foam Label	(1)
X-40038-36-1	Channel Selector Knob Assembly, including	1	4-003-988-01	Carton Sleeve	1
4-004-837-03	Channel Selector Knob	(1)	4-003-988-01	Sheet for Carton	1
-958-01	Face Plate	(1)	4-003-988-01	Master Carton for 4 sets	1/4
4-003-839-01	Spring	(1)	4-004-320-01	Polyethylene Bag	1
-840-02	Control Knob	4	4-003-966-01	Hood	1
-841-02	Volume Control Knob	1	4-003-966-01	Instruction Manual	1
-842-01	Leather Spacer for Knobs	5	4-498-005-01	Caution Tag Assembly, including	1
X-40038-09-1	Front Cover Assembly, including	1	4-003-883-01	Caution Tag	(1)
4-003-843-01	Front Cover	(1)	4-003-883-01	Instruction (Adjustment)	(1)
-980-01	Front Cover Cushion	(1)	4-004-333-01	Inspection Card	(1)
-844-01	Bracket "A" for Hood	(1)	4-004-333-01	Accessory Case	1
X-40038-10-1	Bracket Assembly for Hood	(1)	X-40038-49-1	Polishing Cloth	1
X-40038-11-5	Battery Case Assembly, including	1	7-621-559-25	B. Screws & Washers	
4-003-848-01	Battery Case	(1)	7-621-559-25	Circuit Board Block	
-849-01	" " (Back)	(1)	-261-29	Screw+K2.6×4 for Deflection Circuit	
-850-01	Battery Contactor		-35	Board	1
	(Positive & Negative)	(7)		Screw+P3×4 (Polycarbonate) for	
	" (Negative)	(2)		Power Supply Board	2
	" (Positive)	(2)	-255-35	Screw+P 3×5 for	3
	Battery Case Clamp Screw L	(1)	-261-25	Power Supply Board (1)	
	" " " " S	(1)		Heat Sink (2)	
			-55	Screw+P 2×5 for Heat Sink	2
	Spring for Screw	(2)		Screw+P 3×4 for Video signal	
	Battery Spacer	(9)	7-623-408-02	Circuit Board	2
	Battery Case Lid	(1)	7-622-108-02	Screw+P 3×8 for Heat Sink	2
				Star Washer 3φ for Heat Sink	2
				Nut 3φ	2

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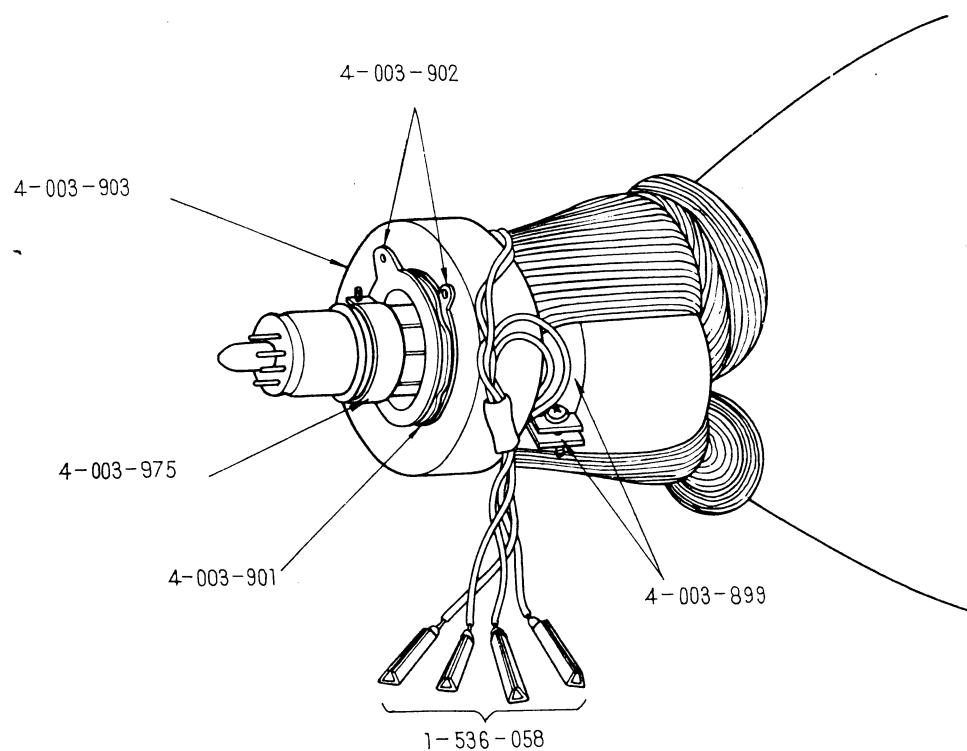
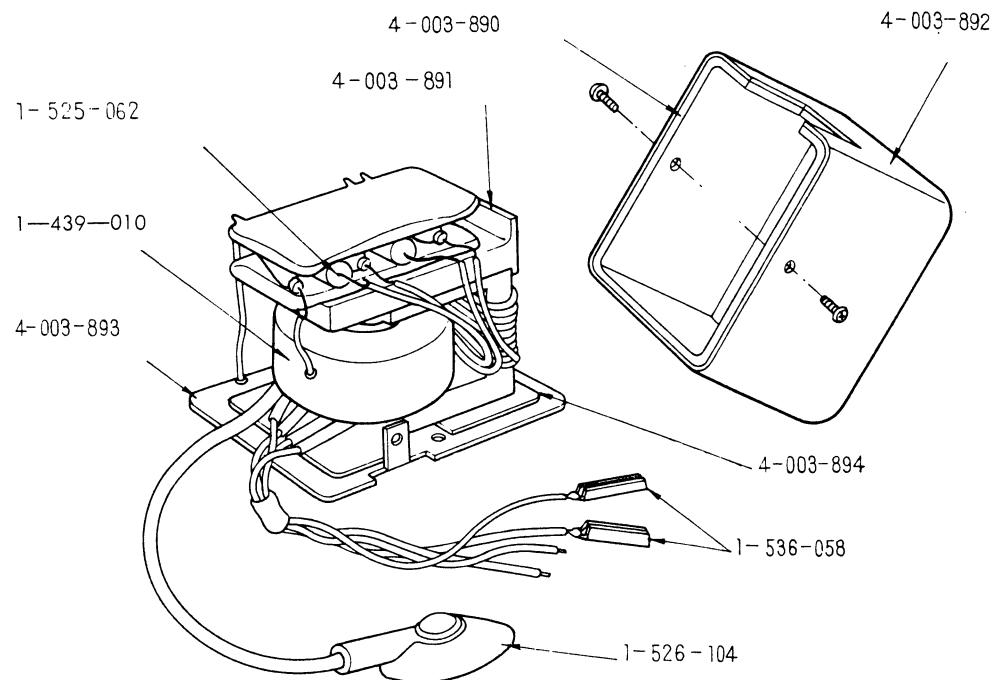
Part No.	Description	Q'ty	Part No.	Description	Q'ty
7-623-205-12	Spring Washer 2 ϕ for Heat Sink	2		Nut 2 ϕ	6
7-621-720-22	Cabinet & Appearance Block Self Tapping Screw+K 2×5 for SONY Badge	2	7-624-103-01 7-624-104-01 7-623-305-02	Retaining Ring E-4 for Battery Case Retaining Ring E-2 for Battery Lid Internal Star Washer 2 ϕ	2 1 2
7-621-259-72	Self Tapping Screw+P 2.6×6 for Cabinet Lower Part	1	-307-02 -207-11 -507-01	" " " 2.6 ϕ for Speaker Spring Washer 2.6 ϕ for Speaker Solder Lug 2.6 ϕ	1 2 1
-722-41	Self Tapping Screw+P 3×6 for Cabinet Lower Part	2		Chassis	
-259-25	Screw+P 2.6×4 for Speaker (2) Cabinet Mask (4) Picture Tube (4)	10	7-621-259-25 -261-35	Screw+P 2.6×4 for 3 P Terminal Screw+P 3×5 for High Voltage Block (2)	2 7 2
-262-55	Screw+P 3×25 for Picture Tube Clamp	1		Antenna Mounter (1)	
-559-25	Screw+K 2.6×4 for Chassis	4		Multi-Jack (2)	
-259-29	Screw+P 2.6×4 for Cabinet Upper Part	1	7-623-208-12	Tuner Mounter (2)	
-555-25	Screw+K 2×4	6		Spring Washer 3 ϕ	3
-770-44	Screw+B 2×5	5		Nut 3 ϕ	2
-559-45	Screw+K 2.6×6 for 2 P Jack Nut 3 ϕ	2	7-621-261-35	Tuner Block Screw+P 3×3 for Tuner	3

Exploded Diagram



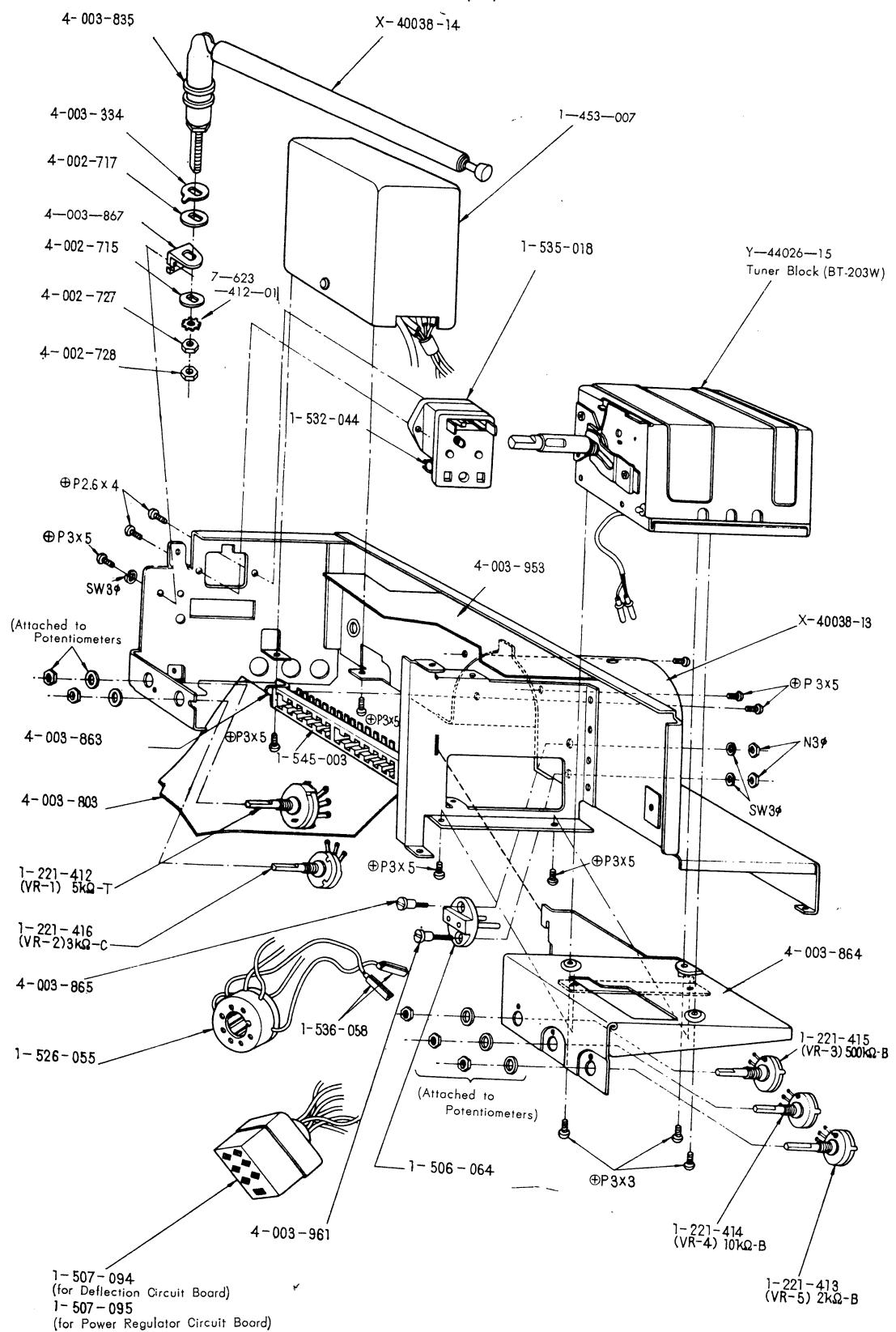
Exploded Diagram

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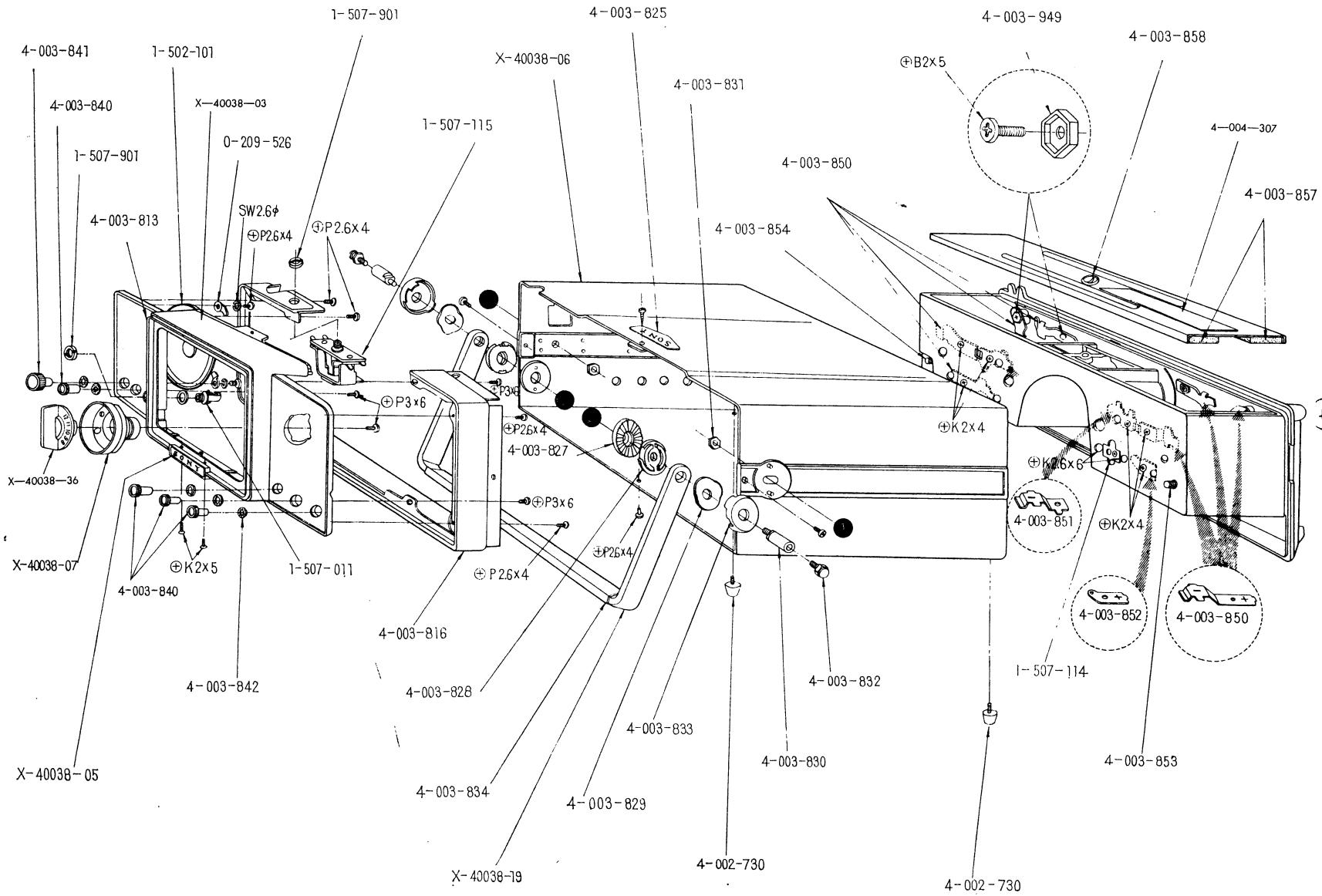


Exploded Diagram

(3)

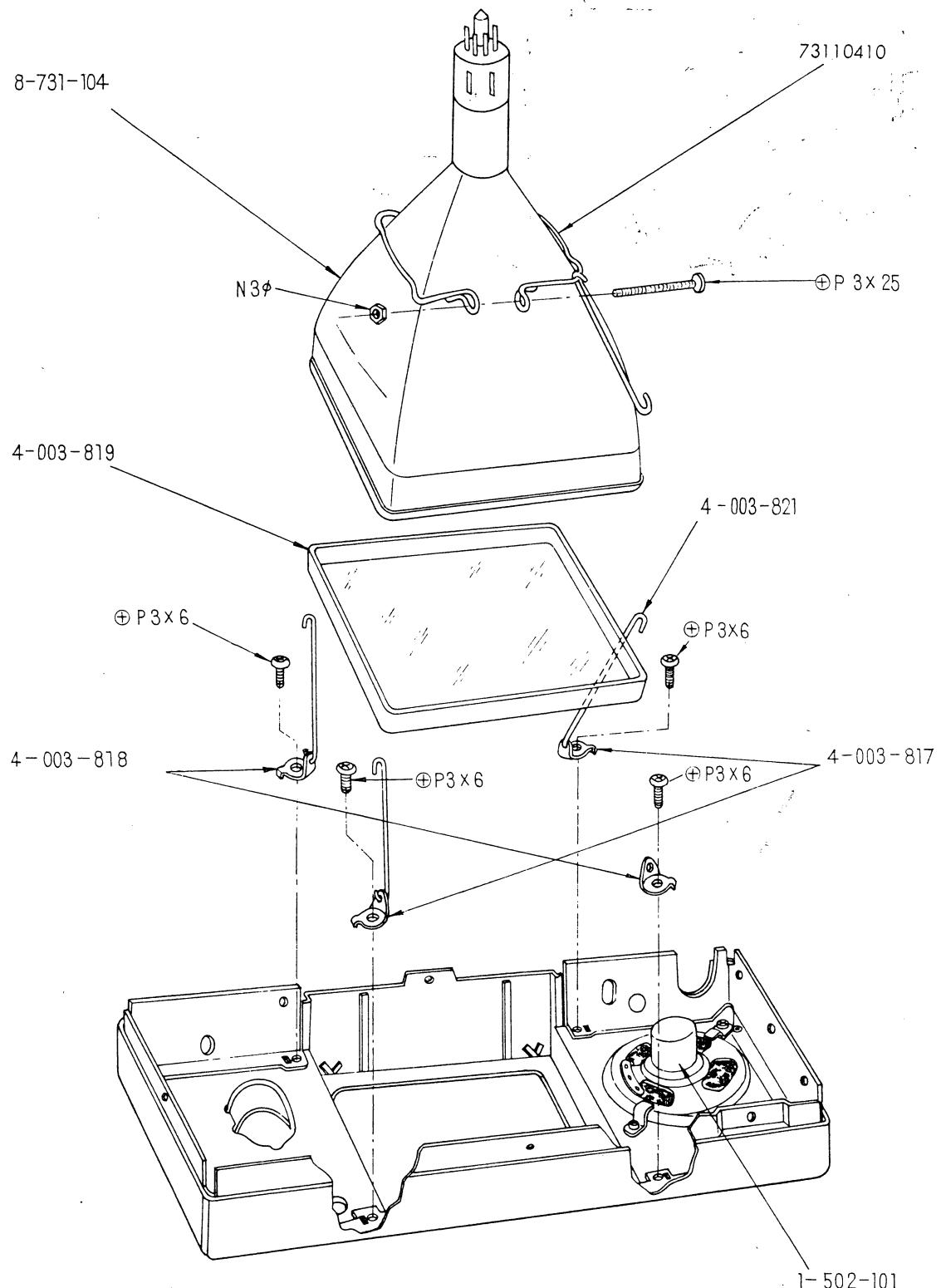


Exploded Diagram (4)



Exploded Diagram

(5)



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